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ARTICLE I.—*The Cell Theories of Huxley and Virchow.* By I. N. DANFORTH, M.D., Chicago.

The student who reads the writings of Prof. T. H. Huxley will at once recognize the fact that he is in the presence of a *master* of terse and vigorous composition, as well as of clear, concise and cogent reasoning; but he will also find himself confronted by the stern necessity of turning his back upon this remarkable author, or else of bidding farewell to all our notions of bygone years regarding vital force. Mr. Huxley does not believe in vital force, as something superadded to, and working through, matter. He is, moreover, regarded as the "ablest English advocate" of Darwinism, particularly "with reference to its application to the human race, which he believes to be nearly related to the higher apes." His more recent views regarding "Protoplasm, or the Physical Basis of Life," are well known to the medical world, and his doctrines regarding the cell are quite consistent with the "physical" tendency of his faith and philosophy.

Mr. Huxley's first article on the cell, so far as I am aware, was published in the British and Foreign Medico-Chirurgical Review

for October, 1853. It was very widely read in England, and also to a very considerable extent in this country, but I think its conclusions found little favor on either side of the Atlantic, except that in England they were loudly trumpeted by the "advanced" school of philosophers whereof Mr. Huxley himself has now come to be the "Head Centre."

In this article, Mr. Huxley adopts to a considerable extent, and expounds at length, the doctrines of C. F. Wolff, first announced in the year 1759; thus rescuing this well-nigh forgotten author from the shades of impending oblivion.

Notwithstanding the intrinsic errors contained in Wolff's theory, it answered well as a sort of stepping-stone to the more recent notions of Huxley, and it is easy to trace the gradual growth of the former into the latter. To Wolff, the cell is a *passive*, not an *active* body; it is a mere cavity formed in and by the "blastema" or surrounding fluid; it possesses no organizing or developmental power, but is itself the visible result of the action of the organizing power inherent in the living mass, or what Wolff calls the *vis essentialis*. For him, however, this *vis essentialis* is no *archaeus*, but simply a convenient name for two facts which he takes much trouble to demonstrate: "the first, the existence in living tissues (before any passages are developed in them), of currents of the nutritious fluid determined to particular parts, by some power which is independent of all external influence; and the second, the peculiar changes of form and composition, which take place in the same manner." (Huxley.) Thus far we have the views of Wolff, as expounded and adopted by Mr. Huxley; and thus far we find the cell shorn of all essential power, and reduced to a mere passive body, which owes its existence to the *vis essentialis* resident in the blastema or fluid in which it floats, and of necessity holding its tenure of existence subject to the option of the same power; furthermore this *vis essentialis* is "simply a convenient name" for describing the visible phenomena which take place during the process of organization.

From this basis, Prof. Huxley goes on to complete his theory: *First*, "there is a condition of all kinds of living matter, in which it is an *amorphous germ*—that is, in which its external form depends merely on physical laws, and in which it possesses no internal structure,"—and, "according to the nature of certain previous

conditions," will be the future changes or differentiations which this "amorphous germ" shall undergo.

Secondly, the "morphological differentiation may be of two kinds." "In the lowest plants and animals," it is external—that is, concerning the outward shape of the germ, and having nothing to do with internal structure.

Thirdly, in all other plants and animals the germ "*becomes separated* into a certain central portion, which we have called the *endoplast*, and a peripheral portion, the *periplast*"—and the "germ in this state constitutes a vesicle with a central particle, or a nucleated cell." The molecular forces, or "*vis essentialis*," are not localized either in endoplast or periplast; there is no attraction or influence exercised by one over the other; the changes which each subsequently undergo, have no connection with each other, but each proceeds "in accordance with the general determining laws of the organism."

Fourthly, "The endoplast grows and divides," but generally "undergoes no other morphological change." "So far from being the centre of activity of the vital actions, it would appear much rather to be the *less important histological element*."

Fifthly, the *periplast* (cell-wall, contents, and intercellular substance) "is the subject of all the most important metamorphic processes, whether morphological or chemical, in the animal and plant. By its differentiation, every variety of tissue is produced; and this differentiation is the result, not of any metabolic action of the endoplast," but of molecular changes in its substance under the guiding force of the "*vis essentialis*."

Sixthly, the metamorphoses of the periplastic substance are twofold—*chemical* and *structural*. The former relate to *conversion*, as of cellulose into xlyogen; or to *deposit*, as of silica in plants, and calcareous salts in animals. The structural metamorphoses are also two: *vacuolation* or the formation of cavities, as in the intercellular passages of plants, the first vascular canals in animals, and *fibrillation*.

So much for Mr. Huxley's doctrines in 1853. It is noticeable that, at this time, he admitted the existence of a guiding or organizing force—"the *vis essentialis* of Wolff, or the vital forces of the moderns," which, whatever he may have regarded its nature, was certainly to him something superior to and superadded to the

ordinary forces resident in matter. It will be seen that in this regard he has essentially modified his views since the date above-mentioned. In one particular, however, as Dr. Tyson has pointed out, Mr. Huxley has been misunderstood by some of his critics, especially Prof. Beale, namely, in that he has been represented as saying that the *periplast* is of itself active. If I correctly understand Mr. Huxley, he means that the *periplast* is *acted upon* by the *vis essentialis;* that it is the subject of action, rather than itself the active agent, and, in the light of Prof. Huxley's recent teachings, it is important that this matter be correctly understood.

It is scarcely necessary to enter into a lengthy explanation of the later views of Mr. Huxley, since they have been very generally read by the profession, and are readily accessible to everybody. Briefly, they are as follows: There is an albuminous matter, common to every form of life, whether plant or animal; this matter is "Protoplasm, or the Physical Basis of Life;" it "presents a three-fold unity—namely, a unity of power or faculty, a unity of form, and a unity of substantial composition," wherever and whenever found; this protoplasm or matter of life exists in the form of nucleated cells, variously modified as to form and size to fulfill various functions; plants can "manufacture" fresh protoplasm from its chemical elements, without limit, but animals must obtain it ready made, and hence, are dependent "in the long run" upon the vegetable world; the protoplasm of one animal may readily be converted or "transubstantiated" into that of any other animal, and this "fact speaks volumes for the general identity of that substance in all living beings."

But Mr. Huxley's views concerning vital action have been most widely and sharply criticised. According to him, there is no mysterious, essential power superadded to the ordinary chemical and molecular forces inherent in protoplasm, which we can call vitality. The phenomena exhibited by it are simply its properties, precisely as the phenomena of water are *its* properties, and we may as philosophically and as truthfully account for the properties of water by ascribing them to a mysterious power and call it "aquosity," as to account for the properties of protoplasm by ascribing them to a like mysterious power and call it "vitality." "What better philosophical status has 'vitality' than 'aquosity'?" asks Mr. Huxley—a question, by the way, which it is not difficult

to answer. These singular notions were announced in a public lecture in Edinburgh, in November, 1868. Although they have achieved a very wide circulation, they have found few adherents among scientific men, with the exception of the school of so-called "physicists," few in number, by whom they were of course joyfully welcomed. Nor is it probable that time and future investigations will render them more acceptable to the great body of scientists throughout the world.

Among modern observers and writers, no one has exerted a wider influence in the domain of cytology than Prof. Virchow, the eminent pathologist of Berlin. As I have already remarked, his views were, to a considerable extent, anticipated by that most excellent observer, Prof. John Goodsir; although it remained for Prof. Virchow to complete Goodsir's investigations, and place the results thereof in a systematic and accessible form; a work which is very fully and ably accomplished in his "Cellular Pathology," published in 1858.

The characteristic views of Virchow in regard to cell growth and cell action, seem to be but little known in this country, notwithstanding the fact that his book has met with a very extensive sale. I shall therefore attempt to state them briefly.

First, The cell is the only possible starting point for all vital processes, whether morbid or healthy; it is never developed, except from a pre-existing cell—or primarily from the ovum; hence *omne vivum ex ovo* becomes, in its broader signification, *omnis* cellula e cellulâ, and this is equally true of plants and animals; the cell consists essentially of "cell wall," "cell contents," and "nucleus"—the nucleolus not being considered essential. The nucleus is exclusively concerned in the *life* of the cell; upon it depends the maintenance of the present, and development of the future cell; while the cell contents (protoplasm of Huxley; formed material of Beale) are entirely concerned in *function*, as contraction, secretion, etc. With regard to "free cell development," it has, says Virchow, "been almost entirely abandoned, and in support of the correctness of which, not one fact can, with certainty, be adduced." (Cellular Pathology, page 36.) According to this view, the cell is the seat of all physiological and pathological processes, rather than the blood, or the nervous centres; hence the term "cellular pathology," in preference to humoral, neural or solidistic pathology.

Secondly, "Every animal presents itself as a sum of vital unities, every one of which manifests all the characteristics of life." * * * Hence there exists in the body "a kind of social arrangement of parts," wherein a number of "individual existences are mutually dependent, but in such a way that every element (cell) has its own special action. and, even though it derive its stimulus to activity from other parts, yet alone effects the actual performance of its duties." In following out this conception, Virchow "portions the body out into cell territories," or innumerable minute islets, which are conceivably tributary to, or are "ruled over" by a cell or cells adjacent. This is more particularly marked in some pathological new formations, consisting largely of intercellular substance, in which the boundaries of the cell districts are very "sharply defined."

Thirdly, The connective tissue corpuscle is not a nucleus alone, as originally stated by Schwann and others, but a complete cell (cell-wall, contents and nucleus); this cell is the starting point of all healthy and morbid growth, except such as may be attributed to epithelial origin; from the "proliferation of this cell, result pus, cancer, tubercle, the various tumors, and, indeed, all pathological new formations, with the exception above-mentioned. Hence these products are not exudations from the blood, but are of local origin—the result of increased or perverted cell-action, expressed by the word "proliferation."

Fourthly, The last and most doubtful feature of Virchow's theory relates to his peculiar system of canals or tubes, resulting from the anastomosis of cells. This is particularly the case with connective tissue cells, concerning which Virchow says, "It may with some degree of certainty be demonstrated, that these anastomoses constitute a peculiar system of tubes or canals which must be classed with the great canalicular system of the body, and which particularly, forming as they do, a supplement to the blood and lymphatic vessels, must be regarded as a new acquisition to our knowledge, and in some sort filling up the vacancy left by the old 'vasa serosa' which do not exist." This reticular arrangement is said to be "possible in cartilage, connective tissue, bone and mucous tissue in the most different parts." (Cellular Pathology, page 76.)

This system of tubuli is also believed to extend to and include

the tortuous fibres of the yellow elastic tissue, and the dentinal tubules. But the majority of observers have thus far failed to discover these anastomosing cells, and the resulting tubules, and the doctrine has not been received with general favor, even in Germany. It would seem that a point so important might be easily, speedily and conclusively settled; but it is extremely difficult, in microscopical investigations, to eliminate the various sources of optical delusion, and decide really what is true and what is false; and in this way, probably, either Virchow or his opponents have been grossly deceived.

Prof. L. S. Beale is a decided disbeliever in the existence of these tubules, and his statements are always entitled to great credence. But, considered in their entirety, the teachings of Virchow are vastly important in their relations to pathology. Whatever their ultimate value may prove to be as regards the establishment of new facts, and the enlargement of the bounds of our knowledge, this much is certain: the labors of Virchow have established a new order of things in regard to care and painstaking accuracy in prosecuting minute investigations; conclusions are less hastily jumped at; crude and silly theories are less frequently spawned upon the world; and the whole tendency of histological inquiry has changed for the better, in that more of care, more of accuracy and more of close and thoughtful study have been infused into the labors of observers everywhere, since the methodical writings of Virchow have become the common property of the profession.

ARTICLE II.— *Non-Ovarian Menstruation; with Cases, and Some Remarks upon the Ovulation Theory.* By A. REEVES JACKSON, M.D., Chicago, Ill.

It has long been known that in many febrile conditions, and under a variety of circumstances quite unconnected with menstruation, there may be a bloody discharge from the uterus, and Mr. Spencer Wells* has proposed to distinguish these discharges from menstruation by the terms "Uterine Epistaxis," or "Metrostaxis."

* *Medical Times and Gazette*, Vol. II, 1866.

Ovariotomists especially have observed, too, that within a few days, sometimes within a few hours, after the operation of ovariotomy, there appears a sanguineous discharge from the vulva, which has also commonly been referred to the same class of cases. Even in the instances where these latter have returned with a certain degree of regularity, physiologists have never regarded them as functional, and I believe that to Dr. H. R. Storer is due the credit of having first called attention to the physiological importance of phenomena of this character.*

In the following case a discharge of the kind alluded to continued after the removal of *both ovaries*, and yet by its periodical return and persistent character it seems to present a fair claim to be regarded as menstrual. I would not feel justified in attaching this kind of importance to the case, however clear and direct the evidence it furnishes, did it stand alone. But it is corroborated by a number of others, the details of some of which have been kindly given me by Drs. Baker Brown, Atlee, and Storer, and which are hereto appended.

Case I. Sarah T——, unmarried, aged forty-four years, commenced menstruating at the age of seventeen, and the process was always painlessly and regularly performed. August 31, 1865, I removed both ovaries, together with a portion of the Fallopian tubes.†

After her recovery, which was rapid and complete, she was frequently under my observation, being a resident of the same town. Some time during the year 1866 I learned that she had been menstruating regularly since the operation—a circumstance which surprised me very greatly, although my patient, an uneducated woman, was not aware that the fact was at all singular. On making close inquiry I was informed that a menstrual period ceased on the 30th of August, 1865. The operation was done in the afternoon of the following day. October 1, 1865, after an interval of thirty-one days, the discharge again appeared, and continued four days, attended by the usual symptoms of lassitude,

* *American Journal of the Medical Sciences*, January, 1868, p. 81.

† A detailed account of this case was published in the *American Journal of the Med. Sciences*, Vol. LII, p. 111, where, however, a typographical error makes the patient's age forty-seven

nervousness, backache, etc. There now occurred an interval of eighty-three days, the discharge reappearing December 22, 1865. Its next appearance was January 20, 1866—four weeks after—and from this last date it had continued to return with entire regularity, every twenty-eight or twenty-nine days, accompanied by all the ordinary symptoms of menstruation, and lasting each time from three to five days.

I now watched the case with much interest, and ascertained that the regularity above noted continued down to October, 1867, —a period of twenty-two months. It then ceased until February, 1868, when it appeared for the last time, the lady being then forty-seven years of age.

I may add that during all this time the patient's general health was excellent, and that I satisfied myself on several occasions that there was no disease of the uterus or vagina. Her voice has become harsher and more masculine, but otherwise there is no change discoverable.

I communicated the principal features of this case to Drs. W. L. Atlee, Spencer Wells, Charles Clay, Baker Brown, H. R. Storer and others, and was surprised to find that they had each met with similar ones, some of which I am permitted to refer to.

Case II. (W. L. Atlee.) "Mrs. J. C., aged thirty-six years, mother of six children. Menstruation always returned five months after parturition. Menstruated regularly the last time, March 20, 1854.

"April 17, 1854, both ovaries were removed at eleven o'clock, A. M. Menstruation returned the same evening.

"On the anniversary of the operation for several years, Mrs. C. regularly wrote to me, keeping me advised of her condition, always assuring me that the menses continued to return regularly.

"Dec. 5, 1867, I saw the patient. She informed me that up to May 1, 1864, she continued to menstruate as regularly as she had ever done. It then ceased. In May, 1865, she had a return, which was the last of it. Dec. 3, 1866, she was 48 years old.

"August 1, 1868, I called to see her while passing through B——, and noticed that she had a *shaved beard.*"

Case III. (W. L. Atlee.) "Miss K. V., aged nineteen years, has menstruated regularly, accompanied with some dysmenorrhœa. Had a regular menstruation just four weeks ago. April 25, 1855, removed both ovaries.

"October 25, 1855, I saw the patient. She had just issued her wedding cards. She has had the regular monthly molimen as before the operation, and also a *monthly discharge*, but not stained with blood.

"She married, made a visit to Europe, and after her return I learned from her mother that the monthly discharge continued, and that she had the proper enjoyments of matrimonial life."

Dr. H. R. Storer, of Boston, has placed upon record three cases of double ovariotomy, and *in all of them* there was a subsequent reappearance of the menses.

Case IV. (H. R. Storer.*) "Sarah A. Colcord, aged 47, unmarried. The menses have always been normal, though somewhat scanty. Sept. 23, 1865, both ovaries and the whole of the uterus, except a small portion of the cervix, were removed.

"From the date of the operation until October 11, eighteen days subsequently, and twenty-six days after the last appearance of the catamenia, there was no discharge whatever from the vagina. Then there occurred a sanguineous effusion, attended by feelings of lassitude, backache, etc., etc., lasting thirty hours, and being an evident attempt at the re-establishment of menstruation; a very curious circumstance, and of great physiological interest, when it is recollected that the uterus and both ovaries had been removed."

Case V. (H. R. Storer.†) Mrs. Dunham, aged 43 years, the mother of six children. Menstruation had been regular down to within two months, and was now suppressed, as was supposed, by pregnancy. The symptoms became urgent, and Nov. 20, 1867, both ovaries were removed. "In the present instance the menses had been absent for two months, and yet reappeared subsequently to the operation, although the ovaries had both been removed, and the major part of the Fallopian tubes also."

* *American Journal of the Med. Sciences*, January, 1866, p. 110.

† *Canada Medical Journal.*

CASE VI. (H. R. Storer.*) Mrs. Matthews. "The ovaries were entirely removed, and yet the patient has had, quite regularly, a sanguineous discharge, without evidence of uterine disease, and which hæmostatics, generally and locally applied, have failed to check or prevent."

Dr. Charles Clay, of Manchester, England, informs me (April 24, 1869,) that in about 220 cases of ovariotomy, he has performed double ovariotomy four times, and that in three of them he had noticed subsequent sanguineous discharge, which, however, he had never considered as menstrual, but attributed it to congestion of the lining membrane of the uterus. He adds, "I must confess the evidence in your case is remarkably strong, and if correct would entirely upset all the usual theories of menstruation."

Dr. I. Baker Brown, in a letter dated April 19, 1869, says, "I think I have had about five cases similar to your own in 148 cases of ovariotomy, but in some of them I could not *completely* remove *all* the disease."

CASE VII. (Baker Brown.) "A little more than two years ago I operated on a young lady *extremely* reduced by ovarian (multilocular) dropsy, and removed both ovaries, and yet she has ever since menstruated, but not regularly—sometimes missing a few weeks."

CASE VIII. (Baker Brown.) "The case on which I lay most stress was one on which I operated about ten years ago. I used the clamp externally, and the stump of the pedicle adhered to the parietes. At every subsequent epoch the skin broke, and she menstruated through the stump, and some through the vagina."

Le Fort also reports a case similar to that of Miss T., in the *Gazette Hebdomadaire.*

Koeberle records a case of this kind also, in which not only the ovaries but a large portion of the uterus were removed, *without interfering with the menstrual flux.*†

Notwithstanding the fact that the ovulation theory of menstrua-

* *American Journal of the Med. Sciences*, January, 1868.

† Liegois on the "Function of Reproduction," being part 1st of his "Traitè de Physiologie appliquè a la Medecine et a la Chirurgérie." Paris, 1869.

tion in the human female has been generally accepted by physiologists and accoucheurs as that which seemed most fully and satisfactorily to account for all the phenomena of that process, it is yet not unlikely that they may be obliged to modify their views in some important particulars.

Cazeaux, after considering the matter fully, says, "Having read all that has been written on the subject, the mind rests satisfied in its ability to refer this singular phenomenon to one unchangeable and easily verified fact, namely, the successive evolution of the Graafian vesicles.

"That the cause of the menstrual discharge is the evolution of a Graafian vesicle, would be an indisputable proposition, provided we were able to show—1st, That the examination of women who died during or shortly after the menstrual period had uniformly revealed the above-named changes; 2nd, That the absence of ovaries involved, of necessity, the absence of menstruation; 3rd, and lastly, That there is a complete analogy between the anatomical and physiological phenomena of the heat of animals and those which accompany menstruation (the menstrual flow) in the human female."

The observations and experiments of Coste, Negrier, Pouchet, Raciborski and others, which have been thought to prove the first of these points, cannot be considered as at all conclusive; and the statement made by Cazeaux that "no one has succeeded in instancing the case of a single woman who died at the menstrual period, whose ovary did not present a vesicle in a greater or less degree of development, or else one which had been already ruptured," may be admitted as entirely true, and yet cannot be taken as evidence of any necessary connection between ovulation and menstruation. For the researches of the elder Ritchie, confirmed more recently by those of the son,* demonstrate most clearly that Graafian vesicles, in successive stages of development, are to be found in the ovaries from early childhood to advanced age without having any connection with, or influence in determining, that process.

* Contributions to assist the Study of Physiology and Pathology. By Charles G. Ritchie, M.D., London, 1865.

The conclusions of Dr. Ritchie are so important in relation to this subject that I give them in full:

"1. The Fallopian tubes of the infant, and of the child before puberty, are perfect in their structure, although their patency is more or less obstructed at birth by the presence in them, and in the uterus, of a tenaceous, glue-colored mucus.

"2. The ovaries of new-born infants and children are occupied, sometimes numerously, by Graafian vesicles or ovisacs, which are highly vascular as early as the sixth year, and vary in size from the bulk of a coriander seed to that of a small raisin, in the fourteenth year, at which time, also, they are filled with their usual transparent granular fluid.

"3. The Graafian vesicles contained in the ovaries prior to menstruation are found, as they also are in every other period of life, in continual progression towards the circumference of the glands, which they penetrate, discharging themselves by circular-shaped capillary-sized pores or openings in the peritoneal coat; the presence of the catamenia being thus no indispensable prerequisite to their rupture.

"4. The establishment of menstruation does not necessarily give rise to any immediate modification in the manner in which the ovisacs are discharged, or in the subsequent change which these bodies undergo; but in some cases the conditions which obtain in the period before puberty, are extended for a time into that of menstruation.

"5. The ovisacs of the human female do not require the establishment or presence of menstruation for their development or rupture. Vesicles of adult size may exist and be discharged about the age of puberty, as also at other periods of life, independently of menstruation; and this state may be present in its normal form for at least eight consecutive periods without a vesicle being ruptured, unless after the manner and with the phenomena which occur in childhood.

"6. In early infancy, extreme old age, and long-continued organic disease, the ova are minute, transparent and structureless cells; and in advanced childhood, during the critical age, and during pregnancy and lactation, they are more or less organized, larger, and in the latter state are often so well matured, that about

one-third of the renewed pregnancies of married women take place while they nurse.

"7. In children and others in the circumstances now mentioned, the exercise of organic power which occasions the secretion and extrusion of ova, is attended also by that of an opaque mucus in the tubes and uterus; but on the attainment by the female of maturity, and onward to the period of critical life (when the animal powers become again diminished, and the calibre of the arteries reduced), the ovarian orgasm, like many other vital actions, undergoes periodical augmentations of power, during which, unless when prevented by the disturbing influence of other functional processes or by disease, it extends to the nervous and vascular tissues of the uterus, and gives rise to the formation within this viscus of decidual vessels, which exude lymph and red globules, the latter being evacuated, mixed with watery fluid, mucous matter, and some of the salts of the blood, in the form of menstruation.

"8. That the periodical congestion or increase in the size of the ovaries before and at the usual menstrual terms is not caused by the pressure or bursting of ripe vesicles, is plain from the consideration that the ovaries are often crowded with such, some of which also occasionally give way, and empty themselves by capillary-sized openings in the surface of the glands in women who have never menstruated; and in others who have ceased to menstruate, one and two large and fully-developed vesicles are frequently seen.

"9. The elimination of ova, and the process of menstruation, are correlative effects of the vital powers of the ovaries (just as the secretion of mucus and gastric juice, and the chymification of the blood, are those of the stomach); and to suppose the rupture of the Graafian vesicles to be the cause of the menses, is to mistake a frequent association, and, to some extent, effect, for a uniform cause.

"10. The principal use of menstruation is, in regard to the ovary, to provide an accessory by which the maturation of its vesicles, and the absorption of their peritoneal and tenacious proper coats, and their extension generally, may be promoted throughout the child-bearing period of life; and, in reference to the uterus, to furnish a nidus within its walls by which the ovum may be entangled, retained and nourished."

From all this it would seem clear that ovulation cannot be regarded either as the cause or effect of menstruation; and, furthermore, that however generally the two processes may accompany each other, this accompaniment is by no means constant or essential. And facts are not wanting to substantiate the correctness of these positions.

For example, Rondelet mentions the case of a woman who was delivered twelve times, and Joubert another, who bore eighteen children, neither of whom had ever menstruated.* And many instances have been related of girls who have become pregnant prior to the appearance of menstruation, and of others who have become so long after menstruation had ceased—all tending to show that ovulation may exist quite independently of the menstrual flow.

On the other hand, a case in which a discharge apparently identical with the menstrual fluid took place every fourteen days during three successive pregnancies, is given by Graily Hewitt in the *London Lancet* for July 24, 1858, p. 91.

Cazeaux admits that the menstrual flow may sometimes appear without necessarily implying the actual rupture of a matured Graafian vesicle, but he explains such cases on the ground that the matured vesicle, having established the menstrual movement, may remain stationary for some time, and finally abort without rupture.

It is needless to say that this explanation is entirely unsupported by facts. The extensive observations of M. Cazeaux have furnished him with undoubted evidence that the discharge of an ovule is not always necessary to the menstrual discharge, but, wedded to the theory that considers the vesicular evolution the only cause of the flow, he is forced to the assumption that in such cases the process has been half completed, half left undone.

But while many of the advocates of the ovulation theory are willing to admit that the ovule may maturate and even be discharged without the presence of the menstrual flow, they yet insist that when menstruation does occur we may feel entirely satisfied as to the existence of the vesicular development; that is to say, they deny that menstruation can occur except as an epiphenomenon of ovulation. And, hence, they argue, menstruation,

* Gardien, *Traitè d' Accouchements*, Vol I, p. 220.

although not a cause of fecundity, is yet a sign of it. But it is plain that if menstruation may occur in a woman who has no ovaries, it can no longer be regarded as a sure indication of fertility.

In order that I may not be misunderstood I wish to say that the cases of alleged menstruation occurring during pregnancy have never found favor with me. I have always thought that close investigation would reveal that the characteristic marks of natural menstruation had been for the most part absent; that the discharge had not returned with the usual regularity as to time; that it had not continued uninterruptedly the usual number of days; that it had differed in quantity and quality from the true menstrual fluid; and, lastly, that the discharge had not been accompanied by the feelings that are commonly experienced by females during normal menstruation.

It is quite true that when we consider the open state of the Fallopian tubes and the cervix uteri up to the second month of pregnancy, and the condition of the decidua vera and decidua reflexa, it is not difficult to understand that they may readily permit the menstrual discharge, in this early stage of pregnancy, being derived from its ordinary source, the lining membrane of the cavity of the uterus. This might be the source of the flow until the cavity of the uterus becomes completely occluded by the contact and coalescence of the decidua vera and reflexa which take place in the third month. The cervical plug of mucus is the only obstacle to its issuing from the uterus. But this is also present in the unimpregnated organ, and requires to be displaced or opened up for each ordinary menstrual period.

And now since we have seen that in some anomalous cases a small portion of the cervix uteri may be sufficient, as in the cases of Storer and Koeberle, to furnish a regular persistent discharge having all the characteristics of the normal menstrual flow, and attended by the usual accompaniments of the latter, we may not find so much difficulty as heretofore in comprehending how such discharge may continue throughout the entire period of utero-gestation.

The appeal to comparative physiology for the purpose of giving support to the ovulation theory is, I think, an unfortunate one. The œstrum of animals and menstruation in the human female are not completely analogous processes; there are indeed points of

essential difference between them. In the former the period marks the *only* time when the male will be received, and the only time when his approaches would be effectual. Whereas there has always been a feeling of repugnance to the sexual act on the part of man, and a delicate shrinking on the part of woman, during the menstrual period. It is well known that among the Jews, and likewise among nearly all eastern nations, sexual intercourse is prohibited at such times by their religion, for the reason that it is "uncleanness." It is also an admitted fact that although impregnation in the human female is much more likely to occur just before, or within a few days after, a menstrual period, yet it is possible at any time. So that although we may admit the intimate and even necessary connection between œstruation and ovulation in animals, it by no means follows that the same relation exists between ovulation and menstruation in woman.

If then it can be shown, 1st, That there is *no* necessary connection between the successive evolution and extrusion of ova and the phenomena of menstruation; 2d, That the absence of ovaries does *not* necessarily imply absence of the menstrual flow; 3rd, That the œstruation of animals is *not* identical with the catamenial discharge; and, 4th, That ovulation and menstruation may each exist without the other, *can* we continue to maintain the correctness of the ovulation theory? I do not mean to be understood as contending that these points are established; for I have no wish to claim more importance for the cases and facts which have been given than fairly belongs to them. But if we give credence to them at all, it seems to me that we must admit that the presence of the ovaries and the process of ovulation are are not the *only* things necessary to menstruation or the menstrual molimen; that the lining membrane of the cavity of the uterus is not the *only* source of the menstrual discharge; and that the "ovulation" theory must be either materially modified, or else discarded as not sufficient to account for all the phenomena.

1026 Wabash Ave.

ARTICLE III. — *Cases from the Surgical Clinic of Professor Moses Gunn, of Rush Medical College.* Reported by H. F. CHESBROUGH, M.D.*

I. Saturday, Dec. 10, 1869. L. S., of B——, Wisconsin, was brought before the class, by his physician, on account of a severe pain seated in the internal malleolus of the left leg. This young man had been unable to walk without crutches for about two years, and had applied to his physician to have his leg amputated, on account of the long continued and excessive pain. His attendant was unwilling to take the responsibility of amputating a limb which seemed perfectly sound to a casual observer, and so brought him to Chicago, to the College Clinic. Dr. Gunn spoke of the history of the case, comprising more than two years of severe persistent, paroxysmal pain, the tenderness on pressure, and the enlargement of the bone at that point, and pronounced the diagnosis of abscess of the bone. He then laid bare the tibia to a sufficient extent, trephined through the malleolus, and in the cancellar tissue of the bone, found an abscess the size of a hickory nut. It was full of well formed pus, which was distinctly visible on the sponge. The smooth walls of the abscess were also felt at bottom of the cavity made by the operation.

The wound was filled with lint and afterward with a wax plug, and allowed to fill up gradually, with granulations from the bottom. A letter was received some six weeks after from his attending physician, stating that the wound had run its natural course, had readily healed, and left the patient with a perfect recovery.

II. An old lady, aged 69, came from Wisconsin to get advice for a cancerous tumor of the breast. It was a scirrhus of large size, and was extirpated. The patient was very timid and the pulse weak and frequent, so that the æther had to be given with great caution. She was able to go home in a few days. * * Last week a letter was received from the husband, stating that the tumor began to grow in the cicatrix before the wound was entirely

* One reason for reporting these cases is, that the students who have seen the operations may know the results, thus adding much, not only to the interest, but also to the value of the clinic.

healed, and was now suppurating freely and very painful, and the patient in feeble health. This case then, as is so often the experience with scirrhus, was attended with only moderate success.

III. H. F., of Illinois, aged 18, presented himself on account of necrosis of the femur. He had contracted the disease while skating. The dead bone was taken away by cutting down upon it and removing it with forceps and chisel. The wound was filled with lint, and on the second day after the operation the plug of lint was removed, and one of wax, made to fit the wound perfectly, was put in its place. By this means the finger could be put into the wound, and the surgeon could feel, day by day, the progress of the case. After all the spiculæ of bone had ulcerated off, and the surface of exposed bone at the deepest part of the wound presented the smooth, velvety feel of healthy granulations, the patient was dismissed, and instructed to pare off a thin shaving from the end of the wax tent at every daily dressing. He was able to go home within ten days, with the certainty of a favorable result from the operation.

IV. On Jan. 22, 1870, came M. D., of Chicago, a young boy who had suffered from necrosis of the femur more than four years. His thigh presented the scars of dried up sinuses, and two openings, from which pus was still continually oozing. A small amount only of dead bone was removed, and the wound was kept open with a wax tent till early in March. Then the last piece of dead bone which could be felt by the finger came away, and the plug was gradually curtailed of its dimensions. Since then the sinuses have gradually closed, and the leg is perfectly healed.

V. C. S., with necrosis of the tibia, presented himself for an operation. He was treated as the others, and was perfectly cured in two months.

VI. On the 12th of Feb., 1870, B. R., of Chicago, an ill-conditioned, pale boy, appeared at the clinic, with extensive necrosis of the left femur. At the operation several small pieces of dead bone, and one large piece, two and a half inches long, very jagged and irregular, were removed. The cut was made between the

inner hamstring muscles and the vastus internus, at the lower and inner part of the thigh. Of course the fibres of the latter muscle were partly divided. On account of the femoral artery the incision could not be carried upward along the femur, as far as the necrosis extended. Therefore a piece of wax was shaped to correspond with the shape and size of an index finger, bent at a right angle at the second joint, and this plug was inserted into the wound after suppuration had been established by the introduction of lint. At this time a jagged piece of dead bone could be felt at the deepest part of the incision, which evidently extended up the shaft of the femur. In about three weeks this piece could be felt coming down gradually, and the wax tent was cut off occasionally to accommodate the descent of the bone, until on the 30th day of April, eleven weeks after the operation, it became loose enough to remove with the forceps, and, when brought to light, proved to be even larger than the first piece. After this the wound was allowed to granulate rapidly from the bottom, and at the present writing, the lad is looking much improved, and the leg is perfectly sound.

On the text of these four cases, Prof. Gunn made a few remarks. He said that early in his practice he would operate for necrosis and employ the recognized after-treatment of filling the incision with lint and keeping the wound open as long as possible, to allow all the dead bone present to exfoliate and pass off. Yet with all the precautions possible it happened to him several times to have to cut a second time down on the same diseased bone. This led him to search for some remedy to obviate the disagreeable necessity of operating twice on the same case, and the wax plug was hit upon. Thus with its use in this case (VI,) the wound was kept open eleven weeks, until the second large fragment was pulled out, and then, by being gradually cut away at its distal end, it permits the wound to fill up from the bottom by granulations, and the gradual healing leaves a solid and perfect scar. The Professor added that after adopting this after-treatment in necrosis, it had never occurred to him to be forced to repeat the operation in the same case. In case III, the bottom of the wound was plainly felt by the finger, within ten days from the operation, to be covered by soft, smooth granulations, and then it was known that it was perfectly safe to

let the patient go home. In case IV, the wound was kept open six weeks, while a few sharp points and small pieces of bone came away, the largest of which was about the size of a split pea. These pieces, insignificant as they seem, if they had not had a free passage kept open for them, could, and in all probability would, have caused a recurrence of those discharging sinuses, so diagnostic of necrosis.

In the case of C. S., (V,) the necrosis was superficial, on the anterior border of the tibia, and at first it was not deemed necessary to use the wax tent, but after three weeks the lint caused so much inflammation around the wound, that it was changed for the wax. At the next clinic a great improvement was visible, the inflammation and tenderness had nearly subsided, and in a month more the last spicula and flake of dead bone had exfoliated, and the patient was discharged cured. This case was remarkable chiefly on account of the large extent of superficial ulceration as compared with the small amount of bone disease. Again, another fact worthy of remark is, that they are so often caused by skating. A young man skates for several hours on a very cold day, comes home chilled through, and goes through the familiar history of necrosis. All of these cases are young men or boys, and three of the four contracted the disease by skating.

VII. A sailor, middle aged, married early in life, and strictly virtuous (he said,) presented himself on May 21st, to be relieved of stricture of the urethra. He had been hit, some eight months previously, by a boom, on the upper and inner part of the thigh and perineum, and very soon after experienced difficulty in passing his urine. It was impossible to pass a moderate-sized sound. The patient was put profoundly under the influence of æther and after much time and manipulation the point of a Holt's dilator was made to engage in the contracted canal of the urethra, after the lacunæ and culs-de-sac had been filled by the ends of fine flexible bougies. It was then pushed into the bladder, and the stricture forcibly dilated. Then a set of Van Buren's conical pointed sounds were passed into the bladder, beginning at four and ending at ten. He was cared for every day till a number sixteen was passed. But nature not having manufactured the orifice of his urethra with due reference to the size of a number

sixteen sound, he was put back to a number twelve. This he was taught to use himself, and on June 4th, he introduced it into his bladder before the class, and with perfect impunity to his meatus urinarius. He expressed his delight and surprise at the ease and copiousness of micturition after the dilatation.

VIII. June 11, 1870, a weak, sickly boy, aged 15, residing on Market street, was brought before the class, to be relieved of traumatic stricture. One stricture was found immediately behind the meatus, and was first forcibly dilated by Holt's dilator, and then by the sound. Then a second stricture was found in the membranous portion of the urethra, and was treated in the same way as the first. The boy's development was very small for his age, so that a number four sound was considered as large as it was best to pass in his case. On reaching the bladder the sound gave distinct and audible evidence to the class that the two strictures were further complicated by the existence of a vesical calculus. The lad was sent home to prepare for the operation of lithotomy. On the 18th of June he again presented himself at the clinic. The lateral operation was made, but the stone repeatedly crumbled and slipped off in the attempts to remove it with the forceps. At last the nucleus, with a portion of the surrounding concretion, was withdrawn, and a large quantity of fungus, thickly studded with the same concretion as the main calculus, was scraped from the walls of the bladder. The calculus was also attached to the upper vesical wall. The patient made a good recovery, passing from time to time shreds of fungus similar to those scraped from the bladder during the operation. This patient will, probably, appear again for further treatment of the strictures.

ARTICLE IV.—*Scorbutic Dysentery.* By J. E. THORNBURGH, M.D., Lynnville, Indiana.

Isaac L., aged nineteen years, American, was attacked July, 1869, with acute dysentery, which terminated finally in chronic dysentery. Previous to this attack, his habits had not been regu-

lar. He was intemperate, and drank great quantities of inferior whisky. He used a great amount of tobacco.

Saccharine articles were his principal diet. His digestion had not been good for several years, and he had had numerous attacks of acute dyspepsia. Several physicians had treated him for the chronic dysentery, all unsuccessfully. He came under my observation in March, 1870. He was extremely emaciated, with a marked sallowness of skin and slight œdema of lower extremities. His gums were in a terrible condition, bleeding profusely almost every day, very spongy, and teeth loose. The breath was very fetid. Ecchymoses numerous on lower extremities, chiefly in the form of petechiæ. The urine was very highly colored, having the appearance of containing blood. On examination none was found, but there was great abundance of the urates.

The discharges from the bowels were peculiarly offensive, and contained an abundance of mucus, and occasionally a small quantity of blood. Ulcerations extended to the extreme outer edge of the anus, causing severe pain on defecation.

Physical examination elicited slight tenderness over the greater part of the abdomen. The liver was very much atrophied and irregular.

March 12th, I placed him under the treatment usually employed in scorbutics, with wine. On the 14th of same month a profuse hemorrhage from the gums occurred, which astringents would not arrest. The Per Sulphate of Iron would arrest it for a few minutes only. I gave him some lemon juice to rinse his mouth with, and the hemorrhage immediately stopped. No more severe hemorrhages occurred after that time. The scorbutic symptoms gradually disappeared, with the exception of pains in his lower extremities, which still persisted and were sometimes very severe.

The treatment for the chronic dysentery was not so successful. Sub-nitrate of Bismuth, combined with Nitrate of Silver, appeared to give more benefit than any other remedies. The discharges became less frequent and more natural under the above remedies, and the patient recovered gradually, till the 18th of May, when he became suddenly worse. The discharges became very frequent, and were mixed with blood and pus.

May 20th, the patient became comatose, and, on the morning of the 21st, died.

There were no positive symptoms of peritonitis.

Was the diagnosis of scorbutic dysentery correct? If so, what caused the scorbutic element in the disease? What caused the atrophy of the liver?

ARTICLE V. — *Case of Fracture of the Spine. Patient surviving seventy-two days.* By DAN'L T. NELSON, Prof. Physiology, etc., Chicago Medical College.

June 12, 1869—Was called to see T. M. who had just fallen from near the third floor of a dwelling house in process of erection, through an open stairway to the first floor, striking the second floor in his descent.

The only injuries to indicate the direction of the fall was a slight bruise over the superior border of the occipital bone, and on the left thigh, neither of which were severe, as he evidently struck smooth surfaces—floors or timbers.

The patient complained of pain in all of the extremities, but most in the cervical region of the spine. All power of motion was lost except in the cervical region and above, and here it was prevented by the excessive pain produced.

A careful examination of the spine, in bed, revealed, at the seat of the greatest pain, a separation of the spinous processes of the first and second dorsal vertebræ to about three times their normal distance. No fracture could be detected. This was the only injury noticed, except the bruises referred to above. Below the point of injury there was complete paralysis and loss of sensibility except the pain referred to the extremities.

The patient was an Irish laborer, 23 years of age, muscular, full fleshed, five feet eight inches high, weighing about 150 lbs., and apparently in perfect health at the time of the accident. Prof. N. S. Davis also saw the patient the day of the accident.

On the day of the injury the only medicine given was a mixture containing Morphine and Belladonna to relieve the pain. The

attendants were directed to keep the patient all of the time on his sides or chest, and not on the back, to give the injured parts the benefit of gravity.

2nd day. Pulse, 74; respiration, 17. Some delirium, but slept the most of the night.

3rd day. Pulse, 62; respiration, 16. No fever; no delirium.

4th day. Pulse, 65; respiration, 17. Considerable œdema of left arm after lying on that side a part of the night. Slept well.

6th day. Œdema left arm, same. Has not lain on it since 4th day. Pulse, 72; respiration, 18. Pulse fuller, and temperature of skin increased; face flushed—some fever. Tr. Veratrum Viride given until nausea produced; then stopped.

7th to 12th day. Pulse, 60—68; respiration, 16, 17. No Veratrum given, but instead—

℞. Tr. Digitalis, - - - - - - - - - - ℥ j.
Fluid Ext. Ergot, - - - - - - - - - - ℥ jv.
Syr. Simplicis, - - - - - - - - - - ℥ jss.
Tr. Aurantii Cort., - - - - - - - - - ℥ ij.

M. Teaspoonful every six hours.

12th day. Tongue begins to be furred for the first time since the accident. Bowels only move by the assistance of laxatives. Urine, normal in quantity and appearance, acid, and has been so from the first. Drawn every eight hours; appetite good; digestion well performed.

13th to 20th day. Pulse 65—78; respiration, 16—19. Left arm still swollen, but not as much as on 4th day. Tongue only slightly furred; bowels moved almost daily by laxatives or enemas; fæces normal; urine normal; appetite good. Food used daily, since the 7th day, five to six eggs, beef tea from two lbs. beef, bread and butter, tea and fruit; digestion well performed; fever ephemeral, only lasting a few minutes.

Since the 13th day, the following mixture has been given instead of the Digitalis and Ergot of the 7th day:

℞ Fluid Ext. Belladonnæ, - - - - - - - - - ℥ j.
Syr. Simplicis, }
Aq. Puræ, } - - - - - - - - - - - āā ℥ ss.

M. Teaspoonful every four hours.

21st day. Had a chill from no assignable cause, fever followed.

22nd day. Pulse, 90; respiration, 23; not labored. Belladonna stopped, and a mixture containing in each dram Hydrarg. Chlor. Corros. gr. 1-16, and Tr. Cinchona ʒj. Teaspoonful every eight hours.

23rd day. Had a sinking spell.

24th day. The œdema which has never left the arm, began to show itself in the walls of the chest and lower limb of the left side.

26th day. On the suggestion of Dr. Walter Hay who saw the patient in consultation, the Bromide of Mercury was given instead of the Bichloride, with the hope of better quieting the muscular spasms in the limbs and the parts below the seat of injury, which produced pain referred to the seat of injury and above.

℞. Hydrarg. Bromid. - - - - - - - gr. ij.
Sacch. Albi, - - - - - - - - - ʒ j.
M. Ft. chart. No. viij. One powder every eight hours.

30th day. Œdema increasing, both lower extremities swollen. Has invaded left lung and the lower and posterior portion of right, so as to interfere very considerably with respiration. The patient was kept upon the sides and anterior portion of the body during the first ten days, but afterwards, for fear of bedsores and to gratify the patient, he was allowed to lie a part of the time upon the back, but later he was compelled to lie upon the left side with the head considerably raised, on account of the œdema of the left lung and lower lobe of the right.

At the suggestion of Dr. Hay, the Bromide of Mercury was omitted and the Bromide of Iron given instead, as the gums were getting tender and a red line forming next the teeth; the tongue also was red and tender, and the epithelium thinned. Appetite not so good. Urine purulent for the first time since the accident.*

℞. Ferri Bromid., - - - - - - - - ʒ j.
Syr. Simplicis, } - - - - - - - āā ʒ ij.
Aq. Puræ, }
M. Teaspoonful every six hours.

* Urine, immediately after being drawn, was found to contain numerous *bacteria*, which, after repeated investigations, were traced to the atmosphere, and to partially desiccated pools of stagnant water in the street gutters. W. H.

Strychnia was also given, with the hope of stimulating the nerves and reducing the œdema.

℞. Strychniæ, - - - - - - - - - gr. j.
Tr. Aurantii Cort., - - - - - - - - ʒ ij.
Syr. Symplicis, } - - - - - - - āā ʒ vij.
Aq. Font., }

M. Teaspoonful every six hours.

31st day. Take Strychnia every four hours, unless spasms in limbs return.

32nd day. Appetite better; œdema less; urine abundant—two quarts in eighteen hours.

33rd day. Pulse, 90; tongue dry; skin dry; heat increased; appetite poor.

34th day. Pulse, 84; tongue dry, but cleaner.

35th to 38th day. Pulse, 80—76; tongue clean; appetite improving.

39th day. Tongue clean; appetite good; bowels moved of themselves for the first time since injury. Give strychnia every eight hours.

41st day. Capillary circulation of nose and right cheek impeded; spasms of muscles of mastication, producing much pain; quieted by local pressure of hands of attendants. Intellect dull.

42nd day. Strychnia omitted; hyperæsthesia left ear and cheek following the course of the facial nerve—not the *fifth;* spasmodic contraction of muscles of face left side; also of shoulders and abdomen. Pulse, 78; respiration, 19; urine, two quarts; has been abundant since 31st day. Œdema much lessened; respiration easy; line of sensation three inches above right nipple, four inches above on left side of arm to insertion of deltoid anteriorly, not so low on posterior portion, and thence to lower border of scapula. No record of the exact line of sensation was before made, but it had not perceptibly changed since the accident. From the time of the accident until the muscular spasms on the 41st day, there had been hyperæsthesia along the line of sensation above, extending as high as the lower jaw and nearly to the ear, but not reaching it. After the spasms of these muscles the zone of hyperæsthesia passed upward to include the portions of the face below the eyes, the nose, cheeks and ear, leaving the zone below with nearly nor-

mal sensibility. The spasms and hyperæsthesia were at first confined to left side, but on the

43rd day the right side also suffered. The hyperæsthesia rendered the muscular spasms almost unendurable. Reflex muscular contractions easily produced in legs on touching them, as in placing a bottle to catch urine. Bedsores clean and healthy, very little discharge. (Have no note of the time when they began, but it was about the 20th day when the sloughs began to show signs of forming. They were kept constantly bathed with a strong solution of Permaganate of Potash, so that there was no odor of decomposing pus in the room, although the weather the most of the time was very warm (July and August.) Muscles of mastication left stiff by spasms; cannot open mouth; sordes begin to collect on teeth; urine, two and a half quarts; pulse, 78, full and strong; respiration, 20.

The dissection made by the bedsores along the spine revealed a fracture of the 7th dorsal vertebra, not before discovered; all the symptoms and the complaints of the patient had directed attention to the injury higher up.

44th day. Pulse, 84; respiration, 19; urine two quarts, and passed for the first time involuntarily but without the catheter; does not dribble but all passed at once after the bladder has become moderately filled; does not feel the urine flowing, but does the *fæces;* refers the sensation to the seat of injury in the neck. Urine began to be purulent on the 30th day, and amount of pus increased until about the 40th day, when it had reached some two ounces in quantity, after which it gradually decreased but rarely was entirely absent until death.

46th day. Pulse, 94; respiration, 27. Feet cold most of the time. Bedsores healthy, and filling up.

48th day. Line of sensation as low as cartilages of lower ribs and ensiform cartilage, right leg almost to toes, both legs to knees, right arm to elbow, left nearly to elbow.

(Can hardly believe now, that sensation did return in lower extremities, but had no doubt of it at the time the record was made.) Feel sure there was no mistake about the extension of sensibility in the chest and arms, as this was observed by Dr. Hay also. Bowels moved of themselves; urine, two quarts. Pulse, 72; respiration, 18.

49th day. Sensation to knees and elbows; urine, two quarts.

50th day. Pulse, 90; respiration, 19; sensation not as low; sleepy; intellect dull; skin hot; delirium for a few minutes; face flushed during delirium; œdema, which has never been entirely absent, is increasing again.

51st day. Dr. Hay, who lives near, was called in last evening. Found pulse, 120; respiration, 36, and difficult; œdema much increased; both lungs dull; mucous rales; respiratory murmur only heard in front above the nipples.

Dr. H. increased the Strychnia, which had been nearly suspended of late—entirely while the spasm of the muscles of mastication had been so troublesome—to gr. 1-16, every four hours, until three doses were taken, and then every six hours.

In the morning, pulse, 102; respiration, 27*; less labored. Continue Strychnia unless spasm of muscles increased.

52nd day. Sensation to second rib and middle of deltoid. Pulse, 102; respiration, 23; slept half of night; urine, two quarts. Œdema decreasing.

53rd day. Pulse, 90; respiration, 24. Hyperæsthesia, lower boundary, the clavicles. Œdema decreasing.

56th day. Pulse, 105; respiration, 27; œdema lower limbs, increasing. Urine alkaline for the first time.

58th day. Hyperæsthesia near clavicles, less. Capillary circulation in cheeks, sluggish.

63d day. Pulse 90; respiration easy. Abscess in left thigh broke and discharged one quart of pus and sanies; femur exposed six inches.

64th day. Pulse, 90; respiration, 34, labored.

68th day. Abscess in left arm burst; said to have discharged more than the one in the thigh; mostly a sanious fluid, like pure juice, or like pus and pure juice mingled. Urine dribbles away; bowels loose.

72nd day. Urine, two quarts. No marked change, though gradually failing; and on the 73d day died.

All the muscles of the left side seemed to be different, much as if putrefaction had already considerably advanced. No autopsy could be obtained on account of the objections of friends.

* Pulse, 96; respiration, 24. W. H.

REMARKS.—We notice, as peculiarities of the case:

1st. The unusual length of time which the patient lived after an injury so high up.

2nd. The slight variation of the pulse and respiration from the normal standard up to the 51st day, when fluids in the lungs had so accumulated as to readily account for their rapidity.

3rd. The long time which the urine remained normal in its reaction, not being alkaline until the 56th day, although pus began to appear as early as the 30th day.

4th. The ease with which digestion and assimilation are performed; showing the possibility of the performance of these functions without the aid of the spinal cord or its nerves below the cervical.

5th. The physiological action of Strychnia in reducing the œdema and increasing the urine, as seen by its exhibition in decided doses on the 30th and following days, and on the 51st and subsequent days.

6th. The good effect of Permang. Potash in preventing profuse suppuration of the bedsores, and keeping away all disagreeable odors, although in the midst of summer.

7th. The location of the line of sensibility as noted on the 42nd day, remembering the anatomical distribution of the nerves in this region, and their origin.

Of the accuracy of the observations there can be no doubt, as it was noticed by Prof. J. A. Allen and Moses Gunn, at different times, and by Dr. Hay and myself at a number of examinations.

8th. The change in the zone of hyperæsthesia, noted on the 41st and 43rd days, and its return to its lower position, as noted on the 53rd day.

May we suppose there was an effusion of fluid into the spinal canal or within the membranes of the cord, which from its pressure destroyed the function of the posterior columns and thus verified the experiments of Brown-Sequard, (see Physiol. and Pathol. Nervous Centres, pp. 19 et seq.) and that the amount of this fluid increased and thus changed the position of this zone as noted?

9th. The extension of sensibility, as noted the 48th day.

May we suppose the real seat of injury to the cord itself was only at the fracture discovered the 43rd day, and the fluids effused

from their pressure destroyed the functions of the cord as high as the cervical region, and then, there being a partial absorption of this fluid, the function of the cord partially returns, as noted on the 48th day?

ARTICLE VI. — *Teaching the Deaf and Dumb to Speak.*
Communicated by DAVID GREENBERGER, Ph. D.

At the regular meeting of the Board of Education held on Tuesday the 6th inst., the Superintendent reported that room No. 3, in the La Salle Street school, was given to Mr. Greenberger for the purpose of educating deaf and dumb children between the ages of six and twelve years, after the European system, that is, to teach them to speak and to understand what is spoken to them by distinguishing words from the motions of the speaker's lips.

Almost all parents of deaf mutes in this city and the surrounding places avail themselves of the benefits of this school, which was opened on Monday the 12th inst.

This system of educating deaf mutes—called the Method of Articulation—which has been in use for a long series of years in all schools for that unfortunate class in nearly all Europe, and was recently adopted in the most prominent institutions in this country, is founded upon the fact that speech, or articulation, is a mere mechanical process, the result of certain movements, identical in all individuals, of the lips, tongue, and other vocal organs. A single glance into the looking-glass is sufficient for anybody to perceive that the shape which the mouth assumes in enunciating the vowel *o* is quite different from that which it shows when we pronounce the letters *b*, *d*, etc.

Through patient study and practice a deaf mute acquires the ability of comprehending these visible movements of the organs of speech—technically called lip-reading—with such precision and correctness that we can speak to him just as to persons endowed with the sense of hearing. Many a one who became deaf in old age, can converse by watching closely the lips of the speaker.

That is one part of the system; the other is to enable the deaf mute to utter sounds himself, and this rests upon the fact that the

above-named movements of our vocal organs, while performing their office, are necessarily and indispensably accompanied by a more or less forcible emission of breath from the mouth, or a vibration of the throat and chest, caused by the straining of certain muscles located in these parts of the body. While pronouncing the letter *p*, you must feel the puff of air on the back of your hand, if you hold it close before your mouth; or placing your hand under the angle of the jaw, and uttering an *e*, the vibration there is most sensibly felt. Of this vibration, and the expulsion of air from the lips, the sense of feeling renders the deaf mute cognizant, and gives him an idea of sound and speech. Having once that idea conveyed to him, there is no reason why he should not be able to imitate sounds and speech, and learn his native tongue. He does not use it now, not on account of his vocal machinery being incapable of operation, but simply for the same reason that an American child does not use the Chinese or any other foreign language, that is, because he never heard anything about it. He is dumb, because he is deaf. His vocal organs being in quite a normal condition, it requires only to convey an idea of sound to him, and to give him knowledge of his faculty to imitate it.

In the limited space now at our disposal, it is impossible to explain clearly and precisely the mechanical formation of all the letters of the alphabet; considering however that this journal is intended for a highly educated and intelligent class, we think it will be sufficient to have given a few striking examples to enable the reader to comprehend how the deaf mute is taught to utter the sounds of the different letters. As soon as he has learned those, we require him to join them to syllables and then to words with easy pronunciation; first, monosyllables: as, *eye*, *pie*, *tea*, *key*, etc.; then words with two syllables: as, *mamma*, *papa*, *baby*, *lady*, and so on.

Those who are unacquainted with the arduous and intricate labors that devolve upon the deaf mute teacher, generally think that after these mere mechanical exercises are over, the greatest obstacles are surmounted and all the rest of the instruction is a mere trifle. If it were so, the lot of those teachers would be more enviable than it really is. It is now that the difficulties of their task begin—difficulties no layman ever dreams of; for after the

idea of the phonetic part of speech has been instilled into the mind of the deaf mute, the most philosophical task begins to make him understand the logical meaning of all the parts of speech, the construction of sentences, the nice shades of meaning expressed in synonymes, etc., etc. Hearing people do not know themselves how they come by all these things, their teachers never had the trouble of explaining to them the meaning of such words as *is*, *has*, *can*, etc. If you do not ask them, they know what those words signify, but if you do ask them, then they do not know. The deaf mute being deprived of one of the most important avenues that convey ideas to the mind, he forms in the same images of only such objects as can be seen with the eyes, or grasped with the hands, etc., everything else is *terra incognita* to him; when he enters school, therefore, he can very easily be taught the names of objects by pointing at them or showing him the pictures thereof, but it is far more difficult to teach him words of an abstract signification.

That the deaf mute must be more successful in forming abstract ideas upon the basis of spoken language, than can be effected through the method of signs, the language of which is devoid of prepositions, conjunctions, pronouns, tenses, moods, etc., is too obvious to require argument, not to mention all the other reasons why the system of teaching him to speak is preferable to that of signs and the manual alphabet.

It must be very gratifying to all the friends of deaf mutes that the American instructors now subject the method of articulation to the test of thorough, systematic experiment. In 1867, the "Institution for the Improved Instruction of Deaf Mutes," was established in New York city, and this system there introduced. The last annual report of this institution presents facts, that give evidence not only of its past prosperity, but are justly encouraging to its hopes for the future. Last winter the president and principal of the institution proceeded to Albany, taking with them a few of their pupils, in order to illustrate the method used in their school before the members of the Senate and Assembly in the State of New York. This they did with such success as to excite general surprise, consequently a bill was passed in both houses in the month of April, placing this institution upon the same legal basis with the old New York institution. Soon after, the State

donated to that noble institution the sum of $10,000 to enable it to receive as many private, State, and county pupils as may be intrusted to their care.

For the sake of the large and unfortunate class of deaf mutes, we wish that this system may soon be adopted throughout all the United States.

ARTICLE VII.—*Cerebro-spinal Meningitis and Chloroform.* By J. E. HARVEY, M.D., Walkerville, Ill.

Having read the case of trismus nascentium cured by the application of chloroform to the spine, as reported by T. L. Papin, M.D., of St. Louis, it occurred to me that it would be equally efficacious in cerebro-spinal meningitis.

On the 12th of August last, I was called to a case of the above-named disease, occurring in a boy two and a half years of age. I applied sulphuric ether (having no chloroform), by means of folds of flannel wet with it and placed along the spine, from the occiput to the sacrum; and gave it by inhalation at the same time, though not to the extent of producing insensibility. The effect was most gratifying, overcoming in three hours the condition of tonic contraction of the extensor muscles of the spine and the flexors of the legs; on the omission of the application, the muscles became again rigid on two occasions, but soon yielded; the patient was convalescent upon the fifth day from the attack. The patient was kept upon the muriated tincture of iron throughout the attack.

Epistolary.

My Dear Professor: — An Englishman once said truthfully, but with sarcasm, that the American alone knew the use of the "small of his back," he sat upon it; and, in return, we say that if these foreigners could experience the soothing, comfortable feeling of having one's heels well elevated, the blood flowing freely from the lower extremities, thus relieving the "engorgement of gravitation," they might soon adopt the ungraceful custom, and believe that some good could come out of "Lunnen;" but, unfortunately, the national foot is too large and cumbrous to be raised above the tangent level of the floor, and they must sit, perforce, square upon their ischiatic tuberosities. Be this as it may, here we are, with our heels considerably high, looking out of our office window, enjoying the trembling sunlight, snuffing up the bracing air, watching the small, fleecy white clouds chase one another across our limited patch of blue sky, like school-boys on a romp; and thus passing the *dolce far niente* of a listless existence. And yet we are not idle, the brain is seething and writhing in the throes of composition; and the blue smoke rises and curls in fantastic wreaths and circling eddies from our pipe-bowl, consoling, to some extent, our lonesome hours, and spreading a fragrant veil above and around our head, through which we seem to see, as if in some remote land, pictures of the past,—of boyhood, of hope, of peace, and of freedom from care—gone, gone forever; pictures of the present—so gloomy, so sorrowful, and so friendless; pictures of the future—alas, the tears will well up in our eyes and obscure the view, better, perhaps, for we should seek no further.

Professor, are you a fatalist? Do you believe that, what will be will be, just as what has been *was?* Do you for a moment suppose that free agency may control and shape the destinies of men, even in the slightest degree? You have read, of course, Kant, Kane, Leibnitz, Cousin and others, and like ourselves, perhaps, gotten so thoroughly mystified by their metaphysical subtleties, as to throw them from you with disgust, and ask yourself, what was man created for? If he has volition, why do circumstances inva-

riably control him? Ah, my friend, we may have free agency, but it is mighty limited, mighty limited, and as we crawl through this miserable existence, determining each day to follow certain rules of conduct, up rises some hydra-headed monster of circumstance to turn us into some directly opposite channel. Life is truly an enigma, and when we look around among our acquaintances, and see so many doing nothing useful, but throwing themselves away with a looseness, and fully cognizant of their own worthlessness, we can only presume them placed here as an example to better men; while again, many known to us, not a few among the profession, believe the earth turns on its axis for their special benefit, and, egotists that they are, cannot understand that if they were to "pass in their chips" to-morrow, mankind would be the gainer. It is as natural to die as to be born, so they said in the olden times, and thus, in

> "Passing thro' Nature to Eternity,
> The sense of death is most in apprehension."

But why we should be so apprehensive; why we should fear this happy transition; why *la renaissance* should present any repulsive features, we cannot comprehend, unless indeed, one may have just forfeited a large life insurance policy, or become so wedded to animal instincts and appetites, as to dread the exchange for the spiritual—dropping Swedenborg out of the question. It is a matter entirely of education. The Ancients looked upon death as a handsome young fellow, with a circlet of evergreens upon his brow, and with an inviting smile, extending a friendly hand toward us; while we present him as a tall skeleton with scythe in one hand, and an hour-glass in the other, chasing some poor fellow, with long strides and clanking joints, to his dreaded charnel house. We remember as a child, the first time having this explained to us, that for weeks after we were afraid to be alone, and could not enter a dark room without whistling our loudest and shrillest notes, the perspiration oozing from every pore, the hair rising on the back of our head, and our toes squirming and twisting, like a bunch of worms in a boy's fishing basket.

Behold the wild Indian of our own continent, taught from his infancy to believe the principle of the *lex talionis* a religion; he kills, without compunction, any who may have injured him or one of his tribe; an eye for an eye, a tooth for a tooth; it makes no

difference whom he may sacrifice, but some victim must be offered to the manes of his companion. See with what stoical indifference he endures the various and devilish torments inflicted by his enemies; he gives up his life without a murmur, while chanting his death-song, and vaunting his own prowess and that of his people. He feels assured of joining the "Great Spirit," and amid the happy hunting grounds, passing an eternity of peaceful content, where the water is always sweet, and where the deer, and the buffalo, and the bear will ever be plentiful.

Again, see with what placidity the Orientalist smokes his opium, taking the crosses and burdens of life with calm philosophy, attending far more scrupulously to his religious duties than ourselves, and never fearing his future state. He feels that after "shuffling off this mortal coil" he will be translated to a Mahommedan paradise; where rivers of gold and silver flow through groves of perennial greenness; where flowers ever blossom and scent the "fainting air;" where birds of gorgeous plumage ever carol their sweet melodies; and where rosy-fingered Houris, with tinted lids and glistening skins, administer to his spiritual wants and necessities forever. What a charming philosophy with which to pass life and face a future; true, bereft of all responsibility, repressive of all energy; but as we belong to the school of Optimists, why not? When we look about us, and see mankind possessed of but *one* idea, worshiping at but *one* shrine; striving, struggling, fighting for the *one* thing, money, and, to get it, emasculating themselves of every quality of manhood; then we ask again, why not?

But to leave such reflections, and to come to more material things. In reading over the proceedings of the National Medical Association, lately assembled in Washington, we cannot for the life of us see anything to commend. How is it with so many good men together, that so little was done to advance science, to uphold the profession in this country, and to foster and enlarge the proper *esprit du corps* among us?

Instead, we find nothing but contention and strife, and every thing done to throw discredit upon us, and above all, to our utter astonishment, the appointment of the "cold water philosopher" of this city, as President of the Committee on the Code of Ethics. Can you tell us by what jugglery this was brought about? Was there no other physician from Chicago, knowing his record, to object to

this outrage? If the profession at large is not aware of it, it is a well-established fact here, that he is the most open and persistent violator of every principle and rule contained in that code, and, except among the small circle of parasites and flatterers, who feed upon the crumbs thrown them, there exists positively none but who complain, and will testify to his ignoble and unprofessional conduct. It has been so with him for years, and this "peripatetic professor" stalks unblushingly abroad, to injure and defame every physician whom the chances of practice unfortunately bring him in contact with. So far has this evil reached, that in the neighboring towns and cities many practitioners refuse absolutely to consult with him; and in this city, we are acquainted with numbers of excellent men, who would throw up their cases before permitting him to cross the threshold, while they were in attendance. It is well understood, that it is his invariable rule, either directly or by inuendo, to weaken the attending physician, instead of instructing, or strengthening his position; and if he can do it in no other way, by charging such small fees—though he is the loudest declaimer for a high tariff—as to appeal to the weakest side of human nature. As for ourselves, we do not know him personally, but we have always refused to meet him, and shall do so to the end of time, not only on this account, but we have little faith in the man of hobbies, whose therapeutical combinations—anywhere from 4 to 40, good for the druggist if not for the patient—imply obscure diagnosis, and seem framed upon the principle, that if one remedy won't avail, a dozen or more may hit the mark.

And how, or by what right does the "ubiquitous doctor" represent in every medical assemblage the profession of this city? We have here many men, well educated, of ripe experience, and of sound judgment, far abler to practice consistently and conscientiously, who have no say in this matter, as they are not members of his *clique*, nor belong to the Chicago Medical Society. It is about time that such outrages be checked, and we invite all members to forward their complaints, properly substantiated, that we may embody them in a protest to be presented to the National Association, to meet next year in San Francisco. It shall be our duty to see if stubborn facts can be controverted, and if such backsliding may continue with impunity, or without exposure.

And now to finish, let us say, *place aux dames*, and quote from an old author:

"La femme souvent varie,
Bel fol est, qui s'y fie."

A woman so often varies,
That he who trusts has *rabies*.
(Free translation *after* Hood.)

We take the above as the text, and you will permit the introduction of an episode, a romance in real life to a certain degree, which, as our JOURNAL lays some claim to literary merit, may not be out of place. Several months back, we were called upon to attend a young gentleman in the last stages of consumption, and though his physical decay was too far advanced to hold out the least shadow of hope, yet we were soon convinced that there existed some mental element, in all probability lighting up the disease *ab initiô*, and now tending to hasten its termination. After a few weeks he took us partly in his confidence, and on the night he died, while holding his poor attenuated hand, and wiping the damp of death from his white, smooth forehead, he drew us gently towards him, and placing a letter in our hands, said, "Doctor, when I am gone, think kindly of me, do not suppose me too weak and foolish, because I have repeated the history of the world; a history beginning with Adam; has been for six thousand years, and will be for six thousand more, should the world last. I loved, I trusted, and I was deceived. The paper you hold, will give the few links wanting, and you will then the better understand me. If in your power ——" here the voice grew so feeble, that with our ear to his mouth we could barely catch his words, while the arm clasped around our neck began to relax, "——follow her up and see if——she cannot be turned——from such a course——" These were his last words, he grew weaker and weaker, and in the long solemn hour after the midnight, his soul, with many mutterings to her he loved, went out through the valley of the shadow of death, to his Maker.

C——, July, 186 .

For the love I bore you, I labored earnestly and faithfully many years, to keep you pure and undefiled; but, alas, you *would* not understand me, and you *dared* not appreciate my efforts in your behalf, for they would militate against your natural instincts, and would keep you out of that "giddy whirlpool" of meretricious display and fashion, termed the world. Go on;

time will come, too late for my happiness, too late for your salvation, but it will come with inexorable certainty, when in an agony of spirit, you will exclaim on your bended knees, Oh, God! *he loved me truly*, and had I heeded his admonitions, all would have been well. I have not studied you in vain for so many years. I *do* know you, and I *do* understand the demands of your nature. No one man, were he an Apollo in beauty, a Pericles in wisdom, or an Alexander in manly enterprise, would content you, or allay those feverish longings for worldly dress and ornamentation; aye, even to the sacrifice of every quality which should ennoble the name of woman. Do you ever think of your childhood? and the tender embraces of your mother? And does not the shadow of her purity and virtue ever fall upon you? Have you forgotten the endearments of your kind father? And do not such reminiscences beckon you back from the road to sin and crime upon which you entered in ——, came here to follow, and been longing for—though held back by a loving hand—since your advent in this city? Oh! I much fear such qualms do not often come to you, for now you seem to have truth for none; your sincerity a deception; your professed love a sham; and your heart—if you ever possessed such a thing—can be made to flutter by the presence or attractions of any man, be he patrician, or be he proletarian. Though I began slowly to recognize such traits in your character, still I loved you to adoration, and had almost foresworn my God for your sake; but, as the truth forced itself upon me, the little manhood and self-respect left, arose in my defense, and declared me no longer a slave to be trampled upon, and death before such dishonor. Being ever a free-thinker, that is, holding my own opinions on many subjects apart from the world around me, I did, and do now, believe that leniency will be shown those committing many of the so-called sins, springing from tenderness of feeling and from the heart; and for all that has passed between us, or rather for the part I took in this unfortunate and wretched *liaison*, I am ready and willing to be arraigned, and feel assured that there will be forbearance and mercy for my many sufferings; as this love, so new, so fresh, so pure, elevated my life, rendered me truer to my manhood, sublimated every noble feeling of my nature, and was the means of turning me from many evil courses, incidental to the life of every man. You went to D—— twice, since I have known you, ostensibly for business purposes, and there committed with a low man, such crimes as to stain your reputation, and reeking from this bed of shame, you returned here and professed to love *me*. This I did not find out until your own conduct aroused my suspicions, but I did find out *all*, and substantiated afterwards by your voluntary confession, in which you simply declared, "because he was so kind to me;" without however, one iota of affection to excuse you, and without one word of the small sum of money received for this barter of your womanhood and honor. In my infatuation I forgave even this, hoping that with me, and under my advice, guidance and assistance, you would endeavor to lead a better life, but I found the seeds of impurity in your blood, which must blossom into crime, or you would forego your nature. I am wearied almost to the death. I see that the

struggle made so desperately has been useless, and as my future was staked upon this issue, I can only add, that he who puts his trust in woman had better rest in his grave. Do not imagine for a moment, that because a few disreputable women manage to lead the life of a gaudy butterfly, accumulate a little property (the wages of sin), and occupy a *quasi* respectable position in society, that all thus succeed. Far from it; the vast majority associate only with a questionable class of men and women, without love or friendship, and before long the inevitable laws of fate revenge their outraged femininity, and hasten them to untimely and dishonorable deaths. And as a last appeal, let me beg you to desist; let me implore you by the memory of all that was ever dear to you, to turn before it may be too late. Struggle on, no matter how great the deprivations, how many the burdens, but struggle on; and, with a watchful Providence to assist you, you may yet be saved. I say for the last time, farewell; we can never meet again; the touch of the destroying Angel is on me, and before many months my troubled life will have closed. I do not despise you, though you have wrecked me, but I do pity you from the bottom of a poor crushed heart. I shall pray for you far more earnestly than for myself, and if in the coming life it be granted to watch and guide those on earth, I shall be with and protect you.

Farewell—Farewell.

Yours, Sincerely, D——.

This letter was evidently written under great mental distress, and the strength for such a task deficient; besides, many words, almost sentences obscured by the "dropping tears" of my poor patient. We have corrected such defects as lay in our power, and present it, as the history of a sad, a true, and a tender love, that which could emanate only from one of the most generous impulses, and would have rendered any true woman's life supremely happy. What must have been the feelings of that miserable creature, after reading such an appeal from a dying lover? We have seen her since, and the furrows and lines of sorrow, but a desperate resolve, are plainly marked on her sweet face. She seeks no palliation except in excess, and crime brings no blush to her cheek.

Poor soiled dove; thrown out of the pale of society by your own acts, man might forgive, and the Young Men's Christian Association might save; but your own sex, with the implacable animosity of the Furies, will pursue and hunt you to your death.

VIATOR.

CHICAGO, Sept., 1870.

Editor's Book Table.

[NOTE.—All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN & COOKE, whose catalogue of Medical Books will be sent to any address upon request.]

Medical Diagnosis, with Special Reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Diseases. By J. M. DACOSTA, M.D., etc. Illustrated with engravings on wood. Third Edition, revised and improved. Philadelphia: J. B. Lippincott & Co. 1870.

The success achieved by this treatise should be gratifying not only to the author himself, but to the profession. It is now an indispensable book to both students and practitioners. Clear, yet with no redundancy, it is a model of excellence in teaching. It is a good omen that books which elucidate facts about which there can be no question, yet whose knowledge is imperative upon the practitioner, are becoming popular, to the exclusion of pretentious catalogues of symptoms without reference to causation, followed by routine measures and methods of treatment, based almost wholly on *post hoc ergo propter hoc* reasoning, or the bald *ipse dixit* of some antediluvian, without the shadow of an idea of the true philosophy of medicines in his noddle. We gladly welcome such books, but from the "Pennyroyal-is-good-for-a-cold," or even the "Veratrum-Viride-is-good-for-fevers" style of literature, GOOD LORD DELIVER US!

What the profession wants, is to know, first, what the human body *is*, whether dead or living; then, *What is the matter?* when it is out of gear. Knowing these things, he is a blockhead who insults our intelligence, that undertakes to foist his pitiful specifics and mediæval mixtures upon us. That is sheer Homœopathy—no matter what name it goes by.

The Physical Exploration of the Rectum: with an Appendix on the Ligations of Hæmorrhoidal Tumors. By WILLIAM BODENHAMER, A.M., M.D. Illustrated by numerous drawings. New York: William Wood & Co., 61 Walker Street. 1870. Pp. 54.

A very useful, indeed, an admirable monograph, which each of our readers will find of practical use in every-day practice. We do not now call to mind any work which gives as complete an exposition of this important subject. In discussing the anatomy of the rectum, he denies the existence of valves from which important diagnostic results are noted. The best instruments and apparatus for physical exploration are described and illustrated, and he hopes for something valuable hereafter from the further development of "Splanchnoscopy by Translucency" as advocated by M. Milliot at the last International Congress at Paris. M. Milliot, it will be recollected, introduced into the stomach and rectum glass tubes of small calibre, containing two platinum wires connected with the electrodes of a battery. In this manner an intense internal illumination renders the visceral parietes translucent. Very particular directions and precautions are given with regard to the several points of manipulation.

The appendix discusses the ligation of hæmorrhoidal tumors. The author advocates the use, almost exclusively, of the silk ligature, well waxed and with as little twist as possible in it. But for details we must refer our readers to the monograph itself, which we advise them to purchase.

The American Dispensatory. By JOHN KING, M.D., Professor of Obstetrics and Diseases of Women and Children, in the Eclectic Medical Institute of Cincinnati, etc., etc. Eighth Edition, completely revised and largely rewritten. One vol., royal octavo, 1440 pages, sheep, price $10.00. Cincinnati: Wilstach, Baldwin & Co., Publishers, 141 and 143 Race St.

Our Eclectic and Homœopathic friends are great believers in medicines, of which this ponderous volume is a striking evidence. A glance at its index almost overwhelms one with astonishment that anybody should be foolish enough to die, or even be sick, whilst so many full grown remedies for every imaginable ailment

are furnished to his organs of deglutition or absorption. The disciples of Hahnemann not only bring in a swarm of new medicines, but, by their mysterious "provings," show that each of them is possessed of a hundredfold more varieties of symptomatic effects, than the proverbial nine-and-thirty stinks of Cologne. This is a somewhat singular fact when taken in connection with the notable truth that, contemporaneously with the advance of scientific medicine, the number and importance of so-called medicines are becoming wonderfully contracted. It is safe to say that educated medical men trust very little in drugs, but seek to control, for the preservation and restoration of health, those larger influences which our fathers so strangely termed the "Non-naturals." In our own view, the man of multitudinous drugs and complicated formulæ, is dangerous to the physical well-being and safety of the community. In a city like this, one can follow such men through their rounds by the crape on the handles of the door bells. It is proper to say that the science of medicine in this age is being advanced, not so much by the discovery of new drugs, or new effects from those previously in use, as by better acquaintance with physiology and other natural sciences. It is in rare instances only, that even the most popular so-called medicines have achieved their position save by modes of reasoning which, in any other department of human knowledge, would be counted simply absurd. Rational men see this, and some are governed in practice by it; nevertheless very many still believe in Chinese gongs and Indian howlings instead of Nature's laws.

The volume before us must rejoice the heart of your true believer in drugs. It is stuffed, from board to board, with accounts of health-bearing herbs and roots, minerals, chemical combinations, "pharmaceutical compounds, alkalies, resinoids, oleo-resins, etc., and likewise all those poisonous mineral agents so strongly objected to by the new school physicians, thus forming a volume full and complete in itself." It is a work evincing abundant industry on the part of its author, and we commend it to those of our subscribers who want us to chronicle the wonders of mint, cummin and anise, at risk of neglecting the weightier matters of the law. We commend it to those of our compeers in the city who are so hurried by business, and yet so desirous of information, that they read in their carriages while passing through

the most crowded streets; their attendant Jehus, meanwhile, borrowing from their association an impressive dignity wondrous to behold. Dear brethren, this book will enable you by its size, at least, to hide your blushes from the gaze of your multitudinous admirers.

Dr. King must have the credit of arranging the voluminous material at his command in excellent order, and gives perspicuously, and, so far as our examination permits us to judge, with remarkable correctness, the physical history of the multitudinous "Botanical" Materia Medica. Very many of the so-called eclectic medicines are now in daily use—employed by homœopathists and physicians regularly, and in this great volume the seeker can find the claims of each and all.

Editorial.

Communications

Are respectfully solicited from our subscribers in different sections of the country. It is a mistake to suppose that extraordinary cases are the only ones desired by readers. Sketches of the prevailing diseases, their general and local causes, and the modes of treatment found useful under all the circumstances, are matters which all thinking medical men are anxious to read. It is well known that we have great confidence in that large and intelligent class of the profession, an Eastern contemporary sneeringly denominates, "the country members." We wish to hear from them.

News and Gossip.

Profs. Huxley and Tyndall propose to visit and lecture in this country, sometime the ensuing year. The former gentleman's official position in the British School of Mines yields him about $3,000 *per annum*, a sum which would be vastly surpassed by a series of lectures by him, anywhere in the United States.——Prof. A. Winchell, State Geologist of Michigan, presented, at the recent meeting of the American Association for the advancement of Science, a paper on the Magnetic Wells of Michigan. We hope

to have more light on the subject when it is printed.——An enterprising citizen of Chicago, claims to have discovered a magnetic water on his farm a few miles out of the city. Prof. Winchell of Ann Arbor, and Dr. Duffield of Detroit, are quoted in the connection. Does anybody recollect Prof. Silliman's (the younger) elaborate pamphlet on the petroleum lakes of California? *Vive la bagatelle!* Now let us have Chicago River Water duly bottled, certified by the Michigan State Geologist, assisted by the Chemist thereof, and sold as NATIVE MEDICATED SOUP. The primeval forms are there, and artificial combinations as complicated as the most fashionable mixtures of heterogeneous incongruities that adorn the pages of our apothecaries' prescription books. As the old Hopkins saw-mill at Grand Haven, Michigan, has been reconstructed to a universal sanitarium and double-back-action rejuvenator, so let us have the Cook Co. and Mercy castles of *ochlesis* and disease, converted into water cures, (with magnetism and soup thrown in,) connecting each with the North Branch, or Healey's slough, and the recent *tap* of the Styx, "down by the Riverside." Stamps to be furnished by the inmates.——The Woman's College is *fait accompli*, and our table is covered with communications on the subject. We must decline all alike, or fill two or three numbers of the JOURNAL. We have only to explain that we do *not* know why all the Faculty, but one, are nominally male; nor why the Professor of Diseases of Children, is an inveterate old bachelor. That is their business, and we are no more called upon to explain it than why a so-called male college receives students for one session by promising each of them professional chairs the next. We repeat, it is not our business, as journalists, to answer such questions. Unquestionably, notes addressed to the Secretaries of the respective faculties (enclosing stamps for return postage) would elicit prompt replies. The advocates of Mesdames G——s, L—v—y, and B—f—t, must not ask us to take sides.——Scribonius Largus mentions a black torpedo applied alive to the head as a remedy for headache. Several other ancient authors confirm the efficacy of the practice. Thus it will be seen the *gymnotus* antedated modern galvanism.——Hennig asserts that catarrh of the Fallopian tubes, is more common than similar affections of the body, neck or vagina. Now then, let the endoscope be fastened on to the end of an improved speculum, the cervix be duly

stretched and the enemy be dislodged by the right or left flank movement of the *porte caustique.*——Vegetable charcoal is recommended as a local application to burns. In young children a tepid bath containing a little sulphate of iron in solution, is used for the same purpose at the hospital at Lausanne.——Dr. Davis, of Iowa, claims that Bromide of Ammonium is *innervating*, in striking contrast to Bromide of Potassium which is *enervating.*——The *Edinburg Journal* says, that Balsam of Peru is *the* remedy for scabies. The patient is stripped and well and carefully rubbed over with the balsam from crown to heels, avoiding abrasions. It soaks into galleries and eggs, and kills everything on the body in an hour. A second rubbing ten days after, kills any stray animalcule or products of eggs that may have been in the clothes the first time. After this the clothes need no disinfection of any sort.——The *Imparziale*, contains (*Nashville Journal*) a vigorous attack upon the practice of circumcision, by Dr. Sonsino, who claims that as a hygienic measure it is a failure; that the principles of medical ethics do not allow of its performance as a prophylactic of venereal affection; and that as a religious rite, it is deserving of condemnation. On the point of prophylaxis, we remark that last month we had occasion to treat a chancre near the frænum of an adult circumcised in infancy. Our observation leads us to believe such cases extremely rare.——An exclusively skim milk diet is said to be not only useful in diabetes, Addison's disease, Bright's disease, but in the treatment of corpulency to be far more efficacious than Bantingism.——A London telegram says that 150 persons are dying, daily, of cholera, in St. Petersburgh. Which reminds us of a practice suggested to us several years since by our valued friend T. O. Edwards, M.D., now of Lancaster, Ohio. On the approach or occurrence of collapse use this:

℞ Strychniæ Chrys., - - - - - gr. ss;
Sp. Terebinth., - - - - - ʒ ij;
Muc. Gum Acac., - - - - - ℥ viij;
M. Intim.
S. A tablespoonful every fifteen minutes; shake well.

This will be found useful in many other grave forms of collapse.

Germane to Prof. Hodgen's discovery, we are reminded of this scissoring:

A Hard Customer.

The scene of the following incident was a Utica restaurant. A man recently entered the place and ordered a very elaborate dinner. He lingered long at the table, and finally wound up with a bottle of wine. Then lighting a cigar he had ordered, he leisurely sauntered up to the counter and said to the proprietor: "Very fine dinner, landlord; just charge it to me, I haven't got a cent" "But I don't know you," said the proprietor, indignantly. "Of course you don't. If you had you wouldn't have let me had the dinner." "Pay me for the dinner, I say." "And I say I can't." "I'll see about that," said the proprietor, who snatching a revolver out of a drawer, leaped over the counter and collared the man, exclaiming, as he pointed it at his head, "Now see if you'll get away with that dinner without paying for it, you scoundrel." "What is that you hold in your hand?" said the impecunious customer, drawing back. "That, sir, is a revolver, sir." "Oh, that's a revolver, is it? I don't care a damn for a revolver, I thought it was a stomach pump."

Morphine dissolved in the proportion of one part of the hydrochlorate to thirty of flexible collodion, is advised as a local application with a camel's hair brush, in neuralgia.——Owing to the neglect of vaccination, small pox is on the increase in London. ——Dr. Charvet extols the use of a solution of permanganate of potash in water, in fœtid expectoration.——The *Medical Press and Circular* says, that a combination of strychnia and iodide of ammonium is much to be lauded in fatty degeneration of the heart. The thirtieth of a grain of strychnia, gradually increased to the tenth, is to be given with two grains of the iodide of ammonium, in a little spirits of chloroform and camphor julep, as a vehicle. In some instances the iodide was rubbed over the cardiac region in the form of a cerate. Of course, other therapeutic measures may be indicated.——A Kentucky Medical College, somewhat noted for its advocacy of high fees, has resorted to the old dodge of instituting a Beneficiary Scholarship for each Congressional district in the Southern States. A religious contemporary, which evidently has not yet cut its eye teeth, commends this as a *noble* benefice. In *Jahr's Manual* we read that small doses of gold produce excessive scruples of conscience. We fear that the *large* fees of the college with which our friend Gaillard is connected has had a contrary effect. However, we are assured "that with proper and welcome delicacy, the names of those who have secured the Beneficiary Scholarships will be known only to the Dean of the Faculty." This is what we may call "ratting to the opposition."

Pro pudor! This attempt to bolster up a feeble school, reminds us of the old examination and its result:

Ques. *Quod est creare?*

Ans. *Creare est facere aliquid ex nihil.*

R. *Ergo, Creamus te Doctorem.*

——Sidney Smith said that "Whoever discourses in the accusative case, must order his language with great care and precision," an injunction our New York weekly contemporary overlooks or disregards. In his attack upon the American system, he committed simply a blunder. When his attention is directed to plain facts, he is anxious to drop the subject. Under cover of a pun (somewhat too obvious to be bad enough for reprehension, as "facetious") he disappears from the arena of argument. But trivial as is the pun, we accept it in all its length, breadth and thickness. We immensely prefer the Russian (*Rush*-ian says our friend) system to the Chinese. Russia has shown a spirit of progress and illustrated a real advancement, within the century past, that it will take ages for China to parallel.——Why does not somebody manufacture a hypodermic syringe that will not get out of order, every third time trying? The cheap, badly constructed toys of the kind we have seen, and have been occasionally obliged to use, are a disgrace to the craft. A similar remark may be made with regard to the atomizing apparatus. This is frequently a useful affair, but, so far, as primitive in its construction as a wooden plough. The brass and glass in it do not relieve it from its absurdity. Let us have something better.——Correspondents of the *American Journal of Pharmacy* commend the following combinations as preferable to the officinal *Mistura Cretæ:*

℞ Cretæ Preparat.,
Pulv. Gm. Acaciæ,
Glycerin, - - - - - āā ℥ j;
Aq. Cinnamomi, - - - ℥ xv;
M.

℞ Cret. Preparat., - - - - - ℥ ss;
P. Sacch. Alb.,
P. Gm Acaciæ, - - - - āā ʒ ij;
M. S. artem.

A dram of this powder to half an ounce each of water and cinnamon water, for each fluid ounce of chalk mixture required.

Dr. T. S. Dowse gives in the *London Pharm. Journal* (*Am. Jour. Ph.*) the following as the best formula for the preparation of Chlorodyne. He does not give the dose, but it is probably the same as that of the original. It does not contract the pupil:

℞ Belladonnæ Ext. - - - - ℥ij;
Morphiæ Muriatis, - - - - gr. xxx;
Ætheris Rectif., - - - - f ℥ viij;
Chloroformi, - - - - - f ℥ viij;
Acid Hydrocyanic dilut., - - - f ℥ iv;
Ol. Menth. Piperit., - - - - gtt. xxx;
Capsicine, - - - - - gr. vj;
Mist. Acaciæ, - - - - - ℥ xx;
Caramel, - - - - - ℥ j;
Theriacæ, - - - - ad ℥ lx;
M. S. artem.

The *American Practitioner* gives a different formula, which presents some advantages:

℞ Chloroformi, - - - - - ℥ vj;
Tinct. Capsici, - - - - ℥ vj;
Tinct. Cannabis, - - - - - ℥ iss;
Ol. Menth. Pip., - - - - gtt. xxxvj;
Morph. Hydrochlor., - - - - gr. lx;
Acid. Hydrocyan. (Schule's), - - ℥ j;
M.

Dr. Metcalfe recommends in *Diphtheria:*

℞ Strychniæ, - - - - - gr. j;
Acid Nitric, Dil., - - - - ℥ j;
Aq. Pur., - - - - - ℥ vij;
M. S. Three to five drops three or more times a day, to a child three years old.

The following is recommended as a local and general antiseptic in similar affections:

℞ Iodinii Bromid., - - - - gtt. xx;
Syrup. Acaciæ, - - - - - ℥ iv;
M. S. Apply locally and give internally a teaspoonful every four hours.

Dr. George Bayles commended the following, in obstinate vomiting:

℞ Chloroform., - - - - - ℥ ij;
Tinct. Aconiti, - - - - ℥ iss;
Tinct. Opi. Camph., - - - - ℥ ss;
Aq. Pur., - - - - - ℥ iij;
M. S. A teaspoonful every hour, p. r. n.

An old mixture, favorite in the Montreal General Hospital, is the following:

℞ Potassæ Nitrat., - - - - - ℥ ss;
Acet. Scillæ, - - - - - - ℥ iv;
Tr. Opi. Camph., - - - - - ℥ iv;
Antim. Pot. Tart., - - - - - - gr. xij;
Aq., - - - - - - - O iiiss;

M. S. A tablespoonful, in febrile and inflammatory affections requiring sedative and eliminant action.

Dr. J. B. Chagnon, in the *Canada Med. Journal*, commends as infallible, for after pains:

℞ Acid Citric, - - - - - - gr. v;
Aq., - - - - - - - ℥ ij;

M. ft. haustus.

S. To be taken at once and repeat, p. r. n. every five hours in troublesome after-pains.

He says it acts as a nervine and as a preventive of inflammation.

Dr. Garretson of the University Hospital, according to the *Philadelphia Reporter*, has discovered a "specific for erysipelas." Here it is:

℞ Tinct. Ferri Chlorid.,
Tinct. Cinchonæ, - - - āā f ℥ ij;
Quiniæ Sulph., - - - - - gr. xxx;
Aq., - - - - - - - f ℥ iss;

M. S. Apply with a brush, four times a day.

The learned doctor, in a recent clinic, intimated that "common sense" taught confidence in specifics. [*Omne ignotum pro magnifico.*]

Dr. A. Given (*Examiner*) commends the following *novel* mixture in typho-enteric fever:

℞ Ol. Terebinth., - - - - - ℥ ij;
Pulv. Acaciæ,
Sacch. Alb., - - - - āā ℥ iij;
Aq. Menth., - - - - - - ℥ ij;
Tinct. Opi., - - - - - - ℥ ij;

M. S. A teaspoonful every two or four hours until the bowels are checked; then lengthen out the dose to intervals of every six or eight hours, until tenderness has subsided.

"The turpentine penetrates the ulcerated surfaces, corrects the morbid action, stimulates the tissues, and sets up the healing pro-

cess. The tincture of opium is beneficial in arresting the peristaltic movement of the bowels, and allaying the morbid irritability of the parts; and by its power of arresting secretion, it promotes resolution." Regin Thompson, the fever man, prefers Oil of Sassafras and Soda. *Suum cuique*, etc.——A somewhat older writer, Paulus Egineta, in treating of urinary calculi, commends a species of Swallow, thus: "When this bird is pickled whole, and frequently eaten in a raw state, it makes the stones which are already formed be passed with the urine, and prevents them from being formed again, and if it be burned alive, entire, with its wings, and if the ashes by itself and along with pepper and a moderate quantity of Indian leaf, be drunk out of mulse, it will do the same thing."

Answer to Dr. Ruppaner; with a Review and Criticism on his recent report of a Case of Laryngo-Tracheotomy, including all the attested facts regarding the recent Partridge Poisoning Case at the Fifth Avenue Hotel. By LEWIS A. SAYRE, M.D., Professor of Orthopædic Surgery, etc., etc.,

Is the somewhat voluminous title of a pamphlet just received, with the endorsement "please notice," which we shall do, with all due courtesy to its author, by deprecating the publication of differences purely private and personal in their nature, such as the subject matter of the pamphlet before us. Personal quarrels generally possess very little interest for the public, and especially is this the case when the belligerents are physicians, "Doctors' differences" having passed into a proverb.

We have yet to learn a single instance of benefit to a professional reputation, by enlisting the public as partizans for its defense when assailed, while the profession at large are repeatedly made painfully conscious of detriment sustained in such contests. The subjects of difference treated in the pamphlet under discussion, could have interested none outside of the circle of personal acquaintance of the parties concerned, and these have doubtless long since formed decided opinions, which will undergo no modification by further evidence or discussion; while the profession at large, not having all the evidence upon both sides of the question, cannot possibly form a rational opinion. From such premises and from such only are we willing to form an opinion, but not even then to express one upon a purely private matter.

Obituary.

JAMES COPLAND, M.D., F.R.S., the well known author and eminent physician, died in London on the 12th July last, of an attack of hæmaturia connected with prostatic disease followed by uræmia, æt. 78. He graduated in 1815. His "Encyclopædic Dictionary of the Medical Sciences," which occupied thirty years of his life, is everywhere known and highly appreciated. Every line of it was written by his own hand, and he personally revised and corrected the proof-sheets. Probably no one man since JOHN MASON GOOD has accomplished so much by his own unaided industry.——LANDON C. RIVES, M.D., who died recently in Cincinnati, at the age of 8½, was formerly associated in the faculty of Cincinnati College with Drs. Drake, Gross, Parker, Rogers, Harrison, and McDowell, certainly one of the ablest associations of Medical teachers ever known in this country. Drs. Gross and Parker are now the only survivors.——DR. AUZIAS TURENNE, the syphilographer and experimenter on syphilization, died in Paris, May 29th, aged 59.——Sir JAMES CLARK, known as Physician in Ordinary to Queen Victoria, and for his works on climate and consumption, died June 29, at the age of 81.——GUNNING S. BEDFORD, M.D., Professor in the University Medical College of New York, author of several works popular with the profession, died in New York on the 5th ult.

Loot.

Chloral-iana. [From *American Eclectic et al.*]

Dr. T. S. Clousten, Medical Superintendent of the Cumberland and Westmoreland Asylum, thus sums up his experience after having given the hydrate of chloral in forty cases of various forms of insanity:

"1. It has proved a most safe and certain sleep-producer. It seems certain that by it we can compel sleep in any case.

"2. By means of this property, attacks of insanity may probably be warded off in some cases.

"3. Its action in abating and soothing excitement is more uncertain than its sleep-producing power, and lasts a shorter time than that of any signally powerful drug; but it is most valuable in certain cases, especially in some recent and curable ones, where formerly we should have been afraid to give opium. It has no directly curative action, but it evidently could be so employed as to tide over short attacks of insanity, and to prevent certain cases from being sent to lunatic asylums.

"4. Whether it does good or not, it never does harm. In this respect it is the very king of all narcotics.

"5. Its effect on the temperature of the body is variable in

different cases, and in the same case at different times; but generally it is to reduce the temperature slightly, taking the average of a number of patients. It differs from opium in this respect, which raises the temperature; but the reduction caused by chloral is not nearly as great in maniacal excitement as that caused by alcohol in large doses.

"6. It should be given to subdue brain excitement in doses, beginning at twenty or thirty grains, repeated from three to five hours. To produce sleep in great excitement from forty to sixty grains are required, the latter dose not failing in one per cent. of the cases."—*British Med. Journal*, May 7, 1870.

Dr. John B. Tuke, Medical Superintendent of the Fife and Kinros District Asylum, has employed chloral with good results in acute mania, asthenic insanity, the insomnia of melancholy, and in chronic cases of insanity, in which violent outbursts of excitement occur. "The advantages of chloral," he says, "over all our hypnotics with which I am acquainted, are—

"1. That it is more uniformly certain in its action.

"2. That it has no depressing influence.

"3. That it does not cause constipation.

"4. That it does not produce nausea.

"5. That its effects are more lasting.

"I believe it to be the most valuable means of procuring sleep which has yet been introduced into the Pharmacopœia of the asylum physician."—*Lancet*, March 26, 1870.

Mr. Spencer Wells stated, at a meeting of the Obstetrical Society of London, that in a case of furious maniacal excitement seen by him with Dr. Munro, one thirty-grain dose of chloral was followed by almost immediate calm and afterward sleep.—*Lancet*, April 2, 1870.

Dr. Playfair also reported to the same society a case of threatened puerperal mania, where the patient had become maniacal after a previous labor, and after the present one exhibited the same symptoms which had preceded the previous attack, viz: restlessness, inability to sleep, etc. Thirty grains of chloral given at bedtime produced a long and quiet sleep, and the same dose was repeated every night for a week. Dr. P. has no doubt that this medicine kept off the threatened attack.

A case of puerperal mania was communicated to the Obstetrical Society of Edinburgh, by Dr. Thompson, who stated that from his observation in that case he looked forward to chloral being of the greatest service in the acute stage of that disease.—*Edin. Med. Journal*, May, 1870.

Mr. R. G. Hill reports (*Med. Times and Gazette*, April 9, 1870,) a case of acute mania in a female, in which the usual remedies

were tried without benefit, when chloral was given with the happiest effect.

Much additional testimony has been adduced as to the value of the hydrate of chloral in *delirium tremens.* According to the experience of the physicians of the Royal Infirmary, Edinburgh, chloral seems in this disease "to be almost a curative agent—as in most cases, notwithstanding violent excitement or delirium, it produces a sound sleep, from which the patient frequently awakes sane and rational. In doses of forty or sixty grains, repeated every half hour three or four times, a deep and lengthened sleep generally ensues. Although there are several exceptions, many most interesting and remarkable cases might be cited to prove the general rule."—*Brit. Med. Journal*, April 30, 1870.

Mr. Maunder has employed it successfully at the London Hospital, in a case of furious delirium tremens in a woman. A dram dose was given, and within half an hour she was fast asleep, all maniacal symptoms being abolished for the time. The dose was repeated, with the effect of keeping her quiet, and at the date of the report she seemed quite rational.—*Brit. Med. Journal*, April 2, 1870.

Dr. George W. Balfour has been equally successful with chloral at the Royal Infirmary, Edinburgh. He relates six cases of delirium tremens successfully treated, and says that the cases in his wards "vary from the merely excited fidgetty condition, known as the horrors, to the most exaggerated mania, often accompanied by repeated epileptiform convulsions. The cases given are amongst the severer ones treated; the milder ones succumbed more readily to the treatment, one dose being usually sufficient; the general result being to keep the wards almost empty, from the rapidity with which the patients are enabled to be discharged."

Dr. C. A. Stivers reports (*Pacific Med. and Surg. Journal*, May, 1870), two cases of delirium tremens successfully treated with chloral, in the San Francisco Hospital.—*Journal of Med. Sciences.*

The late Dr. J. Y. Simpson (*Medical Times and Gazette*), in his "Therapeutic notes on Chloral," remarked as follows: "I am not aware of any special contra-indications to the employment of chloral when used for somniferous purposes. Even in head and chest affections, when I should have been chary of having recourse to opium as an hypnotic, I have employed chloral with perfect success. The contra-indications to opium offered by a tendency to constipation, etc., do not exist against chloral."—*Med. Record.*

M. M. Pallen, M.D., St. Louis, Mo. (*The St. Louis Med. and Surg. Journal*), coincides with M. Demarquay that Dr. Liebreich's assertion "that chloral is decomposed in the blood, and that the chloroform resulting from this decomposition produces anæsthesia," is not the correct view. If chloral acts as an hypnotic and as a hyperæsthetic, it cannot be *totally* converted into chloroform. There is no doubt in his mind that chloroform is produced during the action of the chloral, but the chloroform arises chiefly by oxydation in the lungs. Dr. P. coincides with those who think that it is an hypnotic, and valuable as such an agent where opium cannot be used. He has used it extensively in monomania, endometritis, and puerperal convulsions, to procure sleep; in some instances as high as a drachm; to children, in doses from six to twenty grains, according to age.

It is applicable in that form of affection known as night-terrors. The child is sleepless, or even when it sleeps the slumber is disturbed, and it moans or it grits the teeth. All this should be overcome, or else the child in after years will be an epileptic. Chloral is the remedy, opium the poison. The dose to children will vary from four to twelve or more grains. He always uses, as the vehicle with which to mix the chloral, the syrup of tolu.—*Med. Record.*

Snake Poison and its Antidote.

The following communication appears in a recent issue of the *European Mail*, and throws an important new light on the therapeutics of animal poisons:

SIR—Having noticed of late the publication in both European and American journals of articles upon the subject, and particularly one under date March 2, 1870, under the heading, "The Cobra Question in India," I trust you will give publicity to this communication, on account of its importance; and am induced to ask for it a place in the columns of your journal, in the hope that it will afford to your readers, in India more particularly, a knowledge of an antidote for snake poisons, which may claim to be specific, insomuch as it has never been known to fail in a single instance during the past three years in different districts in this country, in which I have been able to induce its general adoption, and particularly by the *curanderos*, or curers (snake charmers). I have devoted no little time during the past twenty years to a study of the habits, peculiarities, etc., of poisonous snakes, and have made many experiments with their poisons, with a view to discover, if possible, specific antidotes to them, and have been so far successful as to be able to announce the law in therapeutics that "all animal poisons have their specific

antidotes in the gall of the animal or reptile in which these poisons exist."

The bite of the *cobra*, or of any other poisonous snake or reptile, can be cured by administering a few drops of a preparation of the gall of the *cobra*, which should be prepared as follows: Pure spirits of wine, or 95 per cent. alcohol, or the best high wines that can be procured, 200 drops; of the pure gall, 20 drops; in a clean two-ounce phial, corked with a new cork; give the phial 150 or 200 shakes, so that the gall may be thoroughly mixed with the spirits, and the preparation is ready for use. In case of a bite put five drops (no more) of the preparation into half a tumblerful of pure water; pour the water from one tumbler into another, backwards and forwards several times, that the preparation may be thoroughly mixed with the water, and administer a large tablespoonful of the mixture every three or five minutes until the whole has been given. In case the violence of the pain and hæmorrhage or swelling of the bitten part should be but slightly alleviated after the whole has been taken, repeat the dose, prepared with the same quantity of the preparation in the same way, and administer as before. In curing upwards of fifty cases of snake bites I have never been obliged to repeat the dose except in two instances, and have never lost a case. The *cobra* poison is no more deadly than that of a great variety of snakes found in South America, of which may be named the *Cascabel*, or *Rattlesnake; Boqui-dorada*, or gilded mouth; *Mapana-sapo*, or frog-headed Mapana; *Mapana-fina*, or *Lachesis, Niger*, *Birri* and *Verrugosa*, or wart snake. The poison of all these varieties produces death (under certain conditions—atmospherical, physical, climaterical, and electrical) in from fifteen minutes to two or three hours; but it is found that the gall of each variety (administered as previously indicated) is the perfect antidote for its own poison. The gall of the most deadly kind may be used in cases of bites of those less virulent, and is also applicable in cases of bites of the centipede, scorpion, stingray, star-lizard, or *Lacerta-stella*, and is also very effective in dog-bites. The native curers use a tincture of a plant called *Alconcito*, or *solobasta*, for bites of the *Cascabel* and *Boqui-dorada*, with very good success in cases of bites, and also as a prophylactic, by inoculation (in the point of the shoulder), for preserving themselves harmless against these poisons. For this purpose incisions are made at the lower point of attachment of the deltoid muscles, in the same manner as for vaccination, and into these are introduced small pellets of cotton (of the size of a millet seed) saturated with an alcoholic tincture of the *Alconcito*. Care is taken to keep within doors and out of the wet and dew for from fifteen to twenty days, after which period the inoculation is concluded. Of the efficacy of this process, I can say

that I have repeatedly tested it on dogs, in a district where every dog not inoculated, if bitten by a snake, invariably dies, and have never known an inoculated dog to show any inconvenience from the bite of the most venomous viper. This plant is the *Aristoloquia Colombiana.* In Brazil, the curers use the tincture of the *Aristoloquia milhomeus*, or *Arist. grandifloras.* In the United States, the Indians use the *Serpentaria*, or *Aristoloquia Virginiana*, and it is more than probable that the *Arist. Colo.*, or the *grandifloras*, is to be found in India.

During my research in this branch of natural history I have collected much interesting and valuable information, all of which I have incorporated in a small work that will shortly be published in English; but the reports of such a frightful number of deaths from snake bites as English journals record as having occurred during the past year in certain parts of India, have led me to address this letter to you, that the truth of the efficacy of this antidote for snake bites may be tested by every person who takes any interest in the matter, and that these tests may be so effectually made that a point of such vital importance as the discovery of the specific antidote for these poisons may be known throughout the world.

I indulge the hope that I may see repeated corroborations of the results of my own humble labors in this specialty through so many years.

Your obedient servant,

S. B. Higgins.

State of Magdalena, April 10, 1870.

—*Chem. & Drug., Lond.*, June 15, 1870.
—*Am. Jour. Pharmacy.*

A Dangerous Water-Pipe.

Attention has been called several times in this journal to the dangerous character of the *galvanized iron pipe*, when employed for conducting water to be used for culinary purposes. Instances of severe poisoning from the use of this pipe are continually coming to our notice, and we are led once more to caution our readers against it. It is almost a crime for dealers and manufacturers to recommend this zinc-covered iron pipe for water conduit, as they thereby jeopardize the health and perhaps the lives of purchasers. When this pipe comes from the hands of the manufacturers, it has a fresh, clean appearance, and to those who do not understand the nature of the covering, the idea is conveyed that it will not oxydize or rust, like ordinary iron pipes. But this is an error; it will rust even more rapidly than clean iron in most localities. The superficial covering of zinc is rapidly decomposed under the influence of ordinary pond and spring waters, and the

oxide, carbonate, and chloride of zinc are formed, which salts are of a deleterious or poisonous character. This covering of zinc on the interior is attacked immediately when water is allowed to flow through, and in some instances we have known it to be entirely removed in forty-eight hours. The insoluble carbonate of zinc is seen to float upon the water in the tea kettle and other water vessels used in families, and this has often created alarm where no suspicions previously existed. We hope the newspaper press throughout the country will caution their readers against the use of this pipe for water supply.—*Boston Journal of Chemistry.*

Therapeutic Uses of Iodoform.

Dr. Stiles Kennedy, of Newark, Delaware, communicates the results of his observations on the effects of this drug, which he considers to possess great value in various constitutional and nervous diseases. He gives the details of a case of periodic gastric neuralgia, probably connected with a rheumatic diathesis of several months' standing, in a man not 30 years of age, of antecedent good health and vigor. The pains in the stomach recurred on each afternoon, and lasted well during the remainder of the twenty-four hours. Quinine, iron, morphia, arsenic, blisters, mercury, and other remedies, had been administered without advantage. Two grains of iodoform, and the same quantity of pulv. ferri, were prescribed in pills three times a day, and in a week he was well. The second case was that of a man aged 45, who suffered from violent and frequently recurring pain in the scalp, running from the eyebrows to the occiput. A great variety of treatment had here also been adopted, the last being heroic doses of quinia, morphia, iron, and arsenic in combination, but without effect. Dr. Kennedy therefore ordered iodoform, pulv. ferri, of each one hundred grains, veratria one grain; to be divided into fifty pills, one to be taken three times a day. After twelve days' continuance the pain completely disappeared, and in the course of the last year only recurred twice, on each occasion being quickly removed by recommencing the use of the pills. A similar combination, without the veratria, was found very effective in sciatica, by another physician, and in several cases of ague by a third. Dr. Kennedy recommends it strongly as an addition to the ordinary plasters and ointments for syphilitic periostitis, etc.; in fact, he says an ointment containing from thirty to sixty grains of iodoform to an ounce of lard, is one of the most delightful remedies, so far as relief is concerned, to painful burns, sores, chancres, boils, etc., that can be found, promoting rapid healing. In two cases of chancre the dry powder was applied, with magical results.—*The Medical and Surgical Reporter.*

Fistula in Ano. By Tom O. Edwards, M.D., Lancaster, O.

In July number, 1870, of the *Gynæcological Journal*, (Boston), I find ingenious methods of performing the operation for above; and as any mode in some cases (so obnoxious to many patients is the knife,) that would be a success, and, indeed, in this, as in all cases, the more simple, if successful, is the best, I send you the result of my operations. In one case nothing but the knife could have been successful, as it was of twenty years duration, and the patient was induced to pound the buttocks and perineum with a small club, with a view of producing inflammation and union. This resulted in four fistulas, all radiating from one, and after the operation the admeasurement of the various cuts through the buttocks was nearly seventeen inches. This is possibly the largest on record, and was entirely successful, by careful dressing and slow healing.

What I propose to recommend in simple fistula, is the use of the string, differently introduced from the above cited cases, and a different string. The common silk ligature will rot in cases where there is much delay, and the shortest time employed by me has been twenty days. Having been disappointed, and, in one or two cases nearly well, finding the string to give way on being tightened, and thus giving the trouble of introducing another, in order to complete the cure, I resorted to a string made of sea grass, knowing its ability to bear any quantity of water any length of time without rotting, and very strong. My process is this: Introduce into the fistula* a canula, and immediately thereafter the index finger of the left hand in the rectum, feeling the canula, having previously prepared a silver or iron wire annealed, to the end of which is tied the sea-grass string; introduce the free end of the wire through the canula, push it forward, and with the finger in ano, bend the wire down until it protrudes through the sphincter, then draw out until the string is in proper position. This is better than the probe with an eye, as you could not readily disengage the wire from the eye. After that the process is similar. You need no anal speculum. This sea-grass string is rougher and a better cutter—arouses more inflammation than silk or linen, and the one I use I could use a dozen times without rotting. I write this because I see drawings of speculums, needles, and the parts engaged in the disease, in the journals, and knowing my plan is more simple, and easier adopted, I am induced to give it publicity.

The treatment of fistula in ano by ligature was the foundation of the reputation of a "quack," in Louisville, that should have

* If incomplete fistula, make it complete by an exploring needle or other sharp instrument.

been undermined by the surgeons there in six months. All that is needed is the introduction of the string; after that, the patient can daily gradually tighten it. I can most confidently recommend this mode of operating, and in cases of tuberculosis, as the cure is so slow, is accompanied by the usual discharge, and there is no danger from its repression, and needs only patience and attention on the part of the patient. I seldom anæsthize the patient, so rapidly and painlessly is the operation performed.—*Leavenworth Med. Herald.*

A New Remedy for Asthma.

The following extract from a letter lately received, makes mention of an addition to the *materia medica:* "Dr. P., of Lawrenceburg, Indiana, some forty years ago related to me, among other incidents of early frontier life on the Ohio, his experience of a novel remedy involuntarily taken. The doctor had from childhood been a martyr to asthma; it was the rock ahead for which he was continually on the lookout. One day—it must now be near seventy years ago—in traveling the rounds of a country practice, and while yet at a distance from any shelter, a storm of rain burst suddenly upon him. He rode at full speed for the nearest cabin, distant some miles, and reaching there, drenched to the skin and gasping for breath, he dismounted and made the best of his way to the door. As he entered, he met the inmates of the cabin rushing pell-mell out into the rain, holding their noses, and giving expression in every possible way to the most extreme disgust. He was not long in discovering the cause for their actions. The dogs had chased a polecat under the floor, and the whole atmosphere was loaded with its horrid effluvium. It was a choice between polecat and asthma, and Dr. P. chose the former and remained in the house. To his surprise the constriction of his chest began to disappear with the first inhalation, and in ten minutes he was free from every trace of the paroxysm. As soon as he could do so, he procured the musk-bag of one of the animals, and prepared an alcoholic tincture. The scent of this never failed to avert promptly a paroxysm of the disease; and ultimately the remedy, or time, or both combined, effected a permanent cure. He assured me also that he had successfully used it in similar cases to his own. Belonging, as it does, to the same class with musk and castor, but infinitely more active and efficient, if its odor be taken as a criterion of power, it may prove a valuable antispasmodic. I have seen cases of hysteria upon which, from a safe distance, I should have been delighted to witness a trial of its powers."—*American Practitioner.*

Cinchona Cultivation in India.

C. B. Clarke, Esq., officiating superintendent of the botanic gardens, and in charge of cinchona cultivation in Bengal, in his annual report to the secretary of the government of Bengal, makes some interesting statements relative to cinchona cultivation in India. Mr. Clarke thinks that cinchonas thrive best about two thousand feet above the ocean, and grow very well down to the rivers at eight hundred feet elevation. *Cinchona calisaya* grows best at similar elevations, but will not grow so high as *C. succirubra.* The only plants in the Rungbee plantations which are *above* four thousand feet elevation, are some *C. officinalis,* which are being tried at this higher level as a last experiment as to whether the species can be cultivated at all at Rungbee.

The manufacture of the crystallized sulphate of quinine now in general use, consists of two stages. The bark is treated with dilute acid, which takes up the alkaloids contained in it, and also a certain quantity of coloring matter, resin, and other rubbish, which quantity is considerable in *C. succirubra* bark, the only bark which for some years will be produeed in quantity at Rungbee. The acid infusion is neutralized by an alkali, when the quinine alkaloids are precipitated, accompanied with more or less of the rubbish. These precipitated alkaloids (more or less impure) are known as the first stage of the manufacture. The second stage is, in actual manufacture, generally performed by washing the quinine out of these precipitated alkaloids by strong alcohol, and evaporating the alcohol.

According to Dr. Broughton's cinchona report of August, 1868, the quinine alkaloids are valuable febrifuges, and operate pretty much as quinine, but are less powerful. Roughly, it may be said that two grains of cinchonidine are equal in all respects to one grain of quinine. The action of cinchonidine and the other minor quinine alkaloids is less satisfactorily made out, but in the *C. succirubra* bark usually 75 per cent. of the alkaloids present are either quinine or cinchonidine. If the precipitated alkaloids are dissolved in dilute sulphuric acid, the dose is equivalent to that of the crystallized sulphate diluted in acid. Several doctors of experience in the medical department of the government object that the crystallized sulphate is pure, and that they can be sure of the dose they give to a grain; whereas in the precipitated alkaloids the proportions of cinchonidine, and even more inert alkaloids, will be variable and doubtful.

Cinchonidine is about one-third the value of quinine, and its crystals are exceedingly like those of quinine. There is very little quinine in general use at present that is not deeply adulterated with cinchonidine. Should the production of precipitated alkaloids be carried on upon a large scale, it would be possible to thoroughly mix a large quantity, analyze a sample, and then issue it

with the percentage of quinine and cinchonidine certified on the labels of the bottles.

After protracted experiments, Mr. Clarke states it as his opinion the successful manufacture of quinine is not a particular secret, or the adoption of any particular routine, but is the result of the application of skillful manipulation and minute experience at each step and turn of the work.

The prunings and thinnings of this season are estimated to produce about 1,500 pounds of bark, of which nearly 1,000 pounds will be bark from wood three or four years old, the remainder from second year bark.

In the bark, from very young shoots, the quantity of resin present is large, and it must be dealt with by boiling in alkaloid water, notwithstanding the sacrifice of a percentage of the small quantity of quinine present, consequent upon the operation.

In regard to working fresh bark, Mr. Clarke says:

> It has been stated that bark gives up its quinine more readily in a fresh state. I have tried the fresh bark and have not obtained a good result. I have little doubt that this failure was because my bark was not cut fine enough. Indeed, I could see that the dilute acid discolors the bark hardly one-fortieth of an inch deep. There will always be a great practical difficulty in working the fresh bark on a large scale. The fresh bark cannot safely be stored, as it soon ferments. Now the bark only "rises," that is, is fit for stripping, at certain times; so that in the factory, if we worked fresh, we should be compelled to provide a very large quantity of machinery indeed, so as to be able to take in hand, at once, the bark that would come in upon us irregularly in masses. By working it dry we can work it regularly at our leisure.

The number and distribution of cinchona plants in the government plantations at Darjeeling on the 1st of April, 1870, are stated as follows: Of all species, number in permanent plantations, 1,500,658; number of stock plants for propagation, 40,000; number of seedlings or rooted cuttings, in nursery beds for permanent plantations, 379,325; number of rooted plants in cutting beds, 340,127; number of cuttings made during the month, 2,000; total number of plants, cuttings, and seedlings, 2,262,110.—*Dep. Agriculture, July*, 1870.

Efficacy of Large Draughts of Pure Water in Poisoning.

The following note, taken from the works of Sydenham, is full of instruction: —

"I was called to a servant who had taken a large dose of corrosive sublimate. About an hour had elapsed when I arrived. His mouth and lips were already much swollen; he complained of violent pain and burning heat in the stomach, and was extremely ill. I ordered him at once to drink at intervals, but as speedily as

possible, twelve pints of tepid water, and that as often as he should vomit he should begin to drink more. I ordered also that, as soon as it should be perceived by the pains of the bowels that the poison was gaining the bowels, he should be given a number of injections of simply tepid water. The patient did as was ordered, and drank even a greater number of pints of water than ordered. The first vomits were extremely acrid, on account of the quantity of corrosive sublimate which they contained; those which he threw up successively, became less acrid with each successive ejection, until they became completely free. The colics which came on were tempered by tepid water clysters. This simple means was so successful that in a few hours the patient was out of danger. There remained only swellings of the lips and excoriations of the mouth, caused by the acridity of the poison contained in the water which he threw up; but by the use of milk, which I had him take as a sole nourishment during four days, he soon alleviated these symptoms. Ignorants give oil uselessly in such cases. As for me, I would prefer water to oil, and to all other liquids, for the reason that being easily taken in great amount, it seems better calculated to take up the particles of corrosive sublimate than all the other thicker liquids; for they are already impregnated with particles of other bodies." This fact, according to Dr. George, author of a work entitled "*Médecine des Campagnes à l' aide des substances usuelles*" (medicine of the country districts with additional means beyond the ones in general use,) proves that there is no substance, however caustic, that being diluted in a sufficient quantity of water, may not become inoffensive.

Water, then, attenuates the effect of poison and acts as a neutralizer. It fills, besides, the second indication of the treatment of poisoning, that which consists in promoting the elimination of the poison, whatever it may be. Thus this elimination is accomplished by four principal channels: the superior and inferior digestive orifices, the skin and the kidneys. But tepid water is emetic, cold water is diuretic. Why not then oftener resort than customary to this method, so simple and so happily put in practice by the learned Sydenham?

Water, remarks Dr. George, has the first virtue of an antidote applicable to all poisonous agents, and is available at all hours. We time and again read in the papers that a workman or other individual has swallowed, by mishap, a glass of aqua fortis, or a solution of copper, or a solution of sulphuric acid. While a physician is being hunted up, the poor fellow has died. In all these cases, absolute common water, cold or warm, taken in abundance, would suffice to neutralize the poison and save the victim.

The above is a means of saving life which cannot be made too public.—*N. O. Jour. of Medicine.*